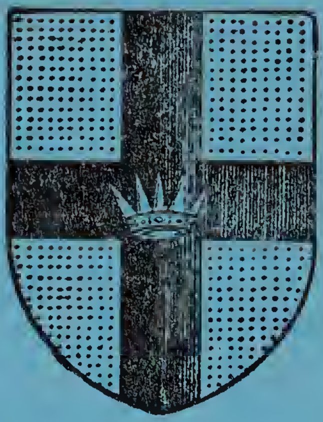


SARAWAK

LONDON SCHOOL OF H
LIBRARY
24 SEP 1964
AND TROPICAL MEDICI

MEDICAL AND HEALTH DEPARTMENT

ANNUAL REPORT

1963

Price: $1.50

SARAWAK

MEDICAL AND HEALTH DEPARTMENT

ANNUAL REPORT

1963

ERRATUM - page 28 - (e) Surgical Services

"See table of out-patient statistics on page 2"

should read page 26.

Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

https://archive.org/details/b31717470

Medical and Health Department,
Kuching,
Sarawak,
Borneo.

Sir,

I have the honour to submit the Annual Report for 1963, of the Medical and Health Department of Sarawak.

I have the honour to be,
Sir,
Your obedient servant,

The Honourable the Minister of Health,
Malaysia, Kuala Lumpur.

R. DICKIE,
Director of Medical Services

CONTENTS

PART I

Page

I Background Information 1
II General Review 5
III Visitors 7
IV Staff 8
V Training 9
VI Departmental and Divisional Organisation 11
VII Preventive and Social Medicine 12
VIII Epidemic and Endemic Diseases 13
IX Hospitals and Dispensaries 16
X Special Hospitals 19
XI Specialised Services 21
XII Voluntary Organisations 24

PART II

I General Hospitals 26
II Special Hospitals 31
III Static and Travelling Dispensaries 34
IV Dental Section Statistics 35
V Pathological Laboratory Services 36
VI Maternal and Child Health Services 39
Malaria Eradication Project 39
Tuberculosis Control Project 45
Rrual Health Improvement Scheme 50

MEDICAL AND HEALTH DEPARTMENT
ANNUAL REPORT 1963

PART I

I. BACKGROUND INFORMATION

Sarawak occupies an area of about 47,500 square miles on the northwest coast of the island of Borneo. It lies between latitudes 0° 50′ and 5° North, and longitudes 109° 36′ and 115° 40′ East, and the territory occupies slightly less than a sixth of the island, which is the third largest in the world.

2. The climate is tropical, with a heavy rainfall, a uniform temperature, and a high humidity. From early October until the middle of February the north-east monsoon brings heavy rainfall, especially in the coastal belt. The rainfall averages between 150 and 180 inches in most areas, and the mean annual rainfall at Kuching is 158 inches. There is, however, normally between three to seven hours of sunshine, depending on the season. On the whole, the climate is a pleasant and equable one, in spite of the tropical situation of the country. It is never cold, and although it can become moderately hot in the day-time the heat is only oppressive during periods of high humidity. The nights are generally cool. The temperature is uniform, varying between the mean maximum of 87.9°F and the mean minimum temperature of 72.5°F in 1959.

3. The total population at the census held in June, 1960 was 744,529. This showed an increase of 198,144 over the figure obtained at the previous census in 1947, i.e. an average annual increase of 15,242, during the thirteen years. Of the total population, 375,846 were males, and 368,683 females. The Sea Dayaks, with a population of 237,741, still form the largest single racial group, followed by the Chinese with 229,154, the Malays with 129,300, the Land Dayaks with 57,619 and the Melanaus with 44,661. Other indigenous races, totalled 38,931 and there were 1,631 Europeans. Since 1947, there has been a percentage increase of 57.9 in the Chinese population, compared with a percentage increase of only 24.9 for the Sea Dayaks, 36.6 for the Land Dayaks, 32.7 for the Malays and 25.6 for the Melanaus.

4. Malays, Kedayans, and many Melanaus profess the Muslim faith. There are a number of Christian Missions at work in Sarawak—Anglican, Roman Catholic, Methodist, Evangelical and Seventh Day Adventist. There are also small communities of Hindus, Buddhists, and Bahais. The 1960 census revealed that there were 174,123 persons professing the Muslim faith, 117,755 professing to be Christians, and 452,651 of the other religious beliefs.

5. Sarawak is divided into five Divisions for administrative purposes and each Division, which is headed by a Resident, is divided into Districts, each in the charge of a District Officer. The 1960 census showed that the population of the five Divisions was as follows:—

First Division	247,954
Second Division	109,422
Third Division	261,487
Fourth Division	96,666
Fifth Division	29,000

The Annual Report on the Registration of Births and Deaths for the year 1962, showed that, at the end of 1962, the estimated figures for the five Divisions, corrected for births and deaths, but excluding immigration and emigration, were as follows:—

	Males	*Females*	*Total*
First Division	136,117	132,200	268,319
Second Division	56,999	57,282	114,281
Third Division	137,766	138,009	275,775
Fourth Division	57,838	48,606	101,444
Fifth Division	15,600	15,188	30,788
	399,320	391,287	790,607

Including the balance of immigrants over emigrants, the total population, as estimated on 31st December, 1962, was 790,607. At the end of June, 1963, the total estimated population was 799,246.

The control of local affairs in Sarawak is largely based on twenty-four fully elected District Councils which now cover the whole of the country. They play an important part in the organisation of primary education and certain health services as well as the duties normally associated with local authorities.

The District Councils elect representatives to five Divisional Advisory Councils which act as electoral colleges for the State Legislature or Council Negri. The latter now consists of thirty-six elected, three *ex officio* and three nominated members plus a Speaker. There is also an Executive Council known as Supreme Council consisting of the Chief Minister, five other ministers and three *ex officio* members. It is presided over by the Chief Minister.

Council Negri in turn elects twenty-four members to the Federal Legislature in Kuala Lumpur.

On September 16th, 1963, Her Britannic Majesty relinquished her sovereignty over Sarawak and on that day Sarawak achieved independence and joined with North Borneo (now Sabah), Singapore, and the Federation of Malaya to form the new nation, Malaysia. The political implications of this move may be learnt from other sources, it is only necessary to explain here that the Sarawak Medical Department, whilst retaining its entity, has become a unit in the Federal Medical Department of Malaysia.

6. Of the total estimated area of 47,500 square miles about three-quarters is still covered by primary rain forest, and the remainder is mainly used for settled and shifting cultivation (six per cent and eighteen per cent respectively). Although Sarawak is basically an agricultural country, the soil is generally poor and shallow, some being extremely acid in reaction, and over much of the accessible part of the country the inherent poverty of the soil has been accentuated by wasteful practices associated with the cultivation of dry padi. The shifting cultivation of hill padi, as normally practised, results in reduced fertility unless the ground is allowed to lie fallow for approximately fifteen years after each crop.

7. The main cash crops are rubber, pepper, sago and coconuts, and a considerable proportion of the general revenue of Sarawak is derived from the export duty levied on rubber and pepper. There are also large and important forest reserves, and timber production ranks after agriculture as the most important economic activity carried on in Sarawak. The principal minerals known to occur in Sarawak are bauxite, now the main mineral export, oil which has been produced from the Miri oilfields for fifty-two years, but which is now decreasing in quantity, gold in small quantities, and coal. The last named is known to occur in payable quantities, but so far, lack of communications has discouraged its exploitation. The new road from Kuching to Simanggang passes within reasonable distance of one known coalfield, and this may encourage its development.

8. The staple diet of the population is rice, but the actual production of rice in Sarawak is inadequate for its needs, and approximately half of the country's requirements is imported, mainly from Siam. Other food crops such as tapioca, maize, yams, and sweet potatoes are used to supplement rice in the rural areas. A noticeable feature of the agricultural economy is the small number of livestock, and the almost entire absence of mixed farming. The few small herds of cattle which exist are mainly confined to the sandy coastal area, although buffaloes are moderately plentiful in the Fifth Division. The only classes of livestock kept in significant numbers are pigs and poultry.

9. Sarawak is a relatively healthy country by tropical standards. Bilharziasis, yellow fever, louse-borne typhus, plague and relapsing fever are not encountered nor has there been a case of smallpox for many years. Until 1961 cholera had not been reported for a great many years, but in that year, and recurrently in 1962 and in 1963, outbreaks of cholera "El-Tor" have occurred. Due to the poor standard of environmental sanitation, however, dysentery and the enteric diseases continued to occur in distressingly large numbers. Leprosy is prevalent also, and endemic goitre occurs in the interior.

10. The policy of the Government in the field of public health, as enunciated in 1960, is as follows:—

> "Believing that good health is one of the most important assets of any community, it is the policy of Government to promote the health of all the people of Sarawak in so far as its financial resources will permit. This will be achieved by:
>
> (a) *protecting* the community against the common communicable diseases, by free protective vaccination and inoculation, and by such other methods as may be available from time to time;
>
> (b) *educating* the public in matters concerning the preservation of health and the avoidance of disease;
>
> (c) *encouraging* the establishment of maternal and child health services as a means of maintaining the health of mothers and children;
>
> (d) *advising* district councils in their efforts to improve the sanitary and living conditions of the people;
>
> (e) *maintaining* hospital and dispensary services for the effective treatment of the sick and injured;
>
> (f) *providing* a dental service complementary to the private practitioner service, with particular emphasis on the care of children."

11. More emphasis is being placed, each year, on the preventive aspects of the work or the department. Mass health campaigns, such as the Malaria Eradication Project, the Tuberculosis Control Scheme, and the campaign against Yaws, which was successfully completed in 1956, are already having a markedly beneficial effect on the general health of the population.

12. In the field of curative medicine hospital and dispensary facilities throughout the country have been steadily improved over the past five years. There are now four main general hospitals situated at the Divisional headquarters towns of Kuching, Sibu, Simanggang and Miri, and a small divisional hospital at Limbang in the Fifth Division. There is also a forty-bed district hospital at Sarikei in the Third Division. In addition to these Government institutions there is a forty-six bed general hospital at Kapit, run by the Methodist Mission, and there are small mission hospitals, dealing almost exclusively with maternity cases, at Kanowit, Sarikei, Mukah, Long San, and Serian. Other hospital institutions run by the Government Medical Department are the Rajah Charles Brooke Memorial Hospital for patients suffering from leprosy, situated at the thirteenth mile, on the Kuching-Penrissen Road, and the Sarawak Mental Hospital, seven miles from Kuching. In all there are 954 general beds in Government hospitals and 129 in non-Government hospitals making a total of 1,083 general beds available for the population of 799,246. In addition there are 234 restbeds attached to the thirty-three static dispensaries run by the Medical Department.

13. There were twenty-one private medical practitioners on the register in Sarawak at the end of the year, in addition to the thirty-two government doctors, six Shell Oilfields doctors, three Mission doctors, and one Peace Corps doctor.

14. There were four Government dental officers and 139 private dentists on the register at the end of the year, but of the latter only four, including one employed by the Shell Oilfields Limited, possessed degrees or diplomas scheduled under the Dentists Registration Ordinance, the other being registered under a special provision of the Ordinance.

15. Outside Government Service, there was only one qualified pharmacist in Sarawak, attached to the Methodist Mission hospital at Kapit. Ninety-two annual licences to sell poisons on a restricted basis were issued to business concerns during the year.

16. The number of midwives registered under the Midwives Ordinance was 440 of which 177 were in Central, and 114 in Local, Government employment.

17. The total sum estimated for recurrent expenditure in 1963 by the Sarawak Government was $73,903,268, of which $7,725,687, or 10.45 per cent was allocated to the Medical Department. The percentage of the total estimates devoted to the medical and health services in recent years have been—

Year	*Percentage*
1962	10.4
1961	10.2
1960	11.1
1959	10.9

In addition the sum of $248,100 was provided for Capital Expenditure, and the sum of $2,893,887 for Development Expenditure during the year. The latter figure was broken down as follows:—

		$
1.	Malaria Eradication Project	781,545
2.	New Sarawak General Hospital	1,199,920
3.	Tuberculosis Control Project	189,550
4.	Rural Health Improvement Scheme	112,756
5.	Local Hospitals and Dispensaries	375,000

Items 1, 3, and 5 are continuing schemes that have been in progress for some years. Item 2 and 4 are new schemes and the sums voted represent the first instalments towards the cost of these schemes which are expected to take some years to complete.

II. GENERAL REVIEW

18. The inauguration of Malaysia on September 16th, 1963, brought to an end the independent existence of the Sarawak Government Medical Department. Under the new constitution the Sarawak Medical Department becomes a unit of the Federal Medical Department of Malaysia. The effect of this change is that major policy decisions and the financing of the department are matters which become the direct responsibility of the Minister of Health in the Malaysian Government. The routine administration of the department together with the preparation and presentation of policy proposals for consideration by the Minister, and the execution of policy once it has been decided, remain the responsibility of the Sarawak Medical Department. One of the inevitable results of Malaysia has been the loss to the department by retirement under the Scheme for Retirement Benefits of two of the expatriate medical officers, one surgical specialist, two Matrons and a Sister Tutor.

19. Unfortunately, the establishment of Malaysia has brought with it an eruption of trouble on the border between Sarawak and Indonesia, with the result that several thousand British and Malayan troops have had to be brought into the country in order to preserve the boundaries of the territory and to protect that part of the population which lives in the border areas. These troops have been involved in a certain number of minor actions against Indonesian-based bandits and the medical care of the casualties resulting from these actions and the normal daily wastage of sick amongst the troops has placed a considerable strain on the hospitals in Kuching, Simanggang, and Sibu. An agreement between the Forces and the department was reached at an early stage whereby any member of the British Forces who through sickness or injury was thought unlikely to be fit for service within seven to ten days from the onset would be evacuated by air from Sarawak to Singapore. This arrangement with regard to the British Forces has functioned admirably and has considerably relieved the strain on the hospital accommodation. Consideration is being given to some similar arrangement for the Malayan Forces. The co-operation between the Service medical officers and medical orderlies and all members of the department has been excellent, and both in the hospitals and in the rural areas, even in the most remote *kampongs*, the Service medical personnel have been at pains to give whatever help they could to the department and directly to the local people. On several occasions Service helicopters have been made available for the evacuation of sick persons from longhouses to one or other of the major Government hospitals, and also for carrying into some of the houses and *kampongs* most

difficult of access members of the Medical Department whose services were required there. Among the unfortunate results of the border troubles has been the necessity, for security purposes, to restrict movement in the border areas. This has seriously interfered with the carrying out of the Malaria Programme. It is timely to acknowledge the indebtedness of the department to the Royal Air Force for help in the evacuation by air to the United Kingdom of several government officers whose speedy return to Europe, on the grounds of ill health, was needed.

20. The projects under the Development Plan for 1959/63 were all completed during the year with the exception of those such as the Malaria Eradication Project, the Rural Health Improvement Scheme, and the Tuberculosis Control Scheme, which are continuing projects and for which provision has been made in the new 1964/68 plan. The construction of two Local Hospitals at Lundu and Marudi has also been postponed until 1964. The 1964/68 Development Plan, which has been in preparation over the last twelve months, and which was finally approved by the Council Negri on 12th November, 1963, provides out of the total of $343,071,341 the sum of $19,519,425 for the Medical Department which is 5.68 per cent of the total. The comparable figures for the 1959/63 plan were a total of $153,681,834 of which the Medical Department received $9,541,792, or 6.2 per cent of the total. In the new plan major importance has been given to proposals which will benefit particularly the rural areas and of these the Rural Health Improvement Scheme, the Malaria and Tuberculosis Projects, the School Dental Service Scheme, and the large provision for rural treatment centres are the major features. The Development Plan, as far as the Medical Department is concerned, is based on proposals put forward by the Divisional Development Committees which were advised by the Divisional Medical Officers, the co-ordinating of these proposals having been done in Medical Headquarters. The single largest item in the whole plan is the provision of $13,500,000 for the construction of a new General Hospital for Sarawak in Kuching. This Hospital will provide specialist services and training facilities for all categories of nursing and para-medical staff for the whole country.

21. Unfortunately the country has shared a cholera epidemic with many Far Eastern countries during the year. It has been caused by "El-Tor" organism and has carried with it a low mortality. Nevertheless, its occurrence sporadically and quite unexpectedly in various parts of the country, particularly in the First and Second Divisions, has remained an administrative anxiety and has entailed a diversion of staff and resources to control it. Some details of this outbreak will be found later in this report.

22. Considerable progress has been made during the year with buildings. Work has been going on continually with the plans for the new Sarawak General Hospital and during a visit to Sarawak in October lasting three weeks by two of the architects, whose firm in Australia is responsible for this project under Colombo Plan auspices, agreement was reached on the sketch plans and upon much details of the new hospital, and preparation of the working drawings is now in hand. The Public Works Department has prepared plans, which have now been put out to tender, for the construction of local hospitals at Marudi and Lundu. The Public Works Department has also prepared plans, which have been put out to tender, for the construction of new kitchens, a new dining hall and laundry, and servants' quarters for the Nurses Home at the General Hospital, Kuching. New dispensaries, constructed according to the departmental standard plan, have been built at Pusa, Daro and Muara Tuang, and replacement dispensaries have been built at Belaga, Engkilili, Saratok, Serian, and Bintulu.

23. In January and February of this year, very severe flooding occurred in many parts of the country, particularly in the Fourth Division, with the result that much material damage and loss was sustained in many longhouses and a great deal of the padi crop was lost. A National Flood Disaster Fund was swiftly organised by the Government and aid from organisations such as the Red Cross society and U.N.I.C.E.F. and many private individuals, was made available to those who had suffered loss. The Medical Department successfully undertook the prevention of the outbreak of any epidemic disease in the flooded areas by practical means such as vaccination and by intensive publicity to encourage sanitary measures such as the boiling of water and the proper disposal of waste.

III. VISITORS

24. The department has continued to receive visits and advice from officials of various international agencies, particularly U.N.I.C.E.F. and W.H.O. These have, for the most part, been in connection with the Malaria Eradication and Tuberculosis Projects, and also with the distribution of gift supplies to undernourished children and Maternal and Child Welfare clinics. Several visits have also been paid by senior officers of the British and Malaysian Armed Forces.

25. The following visitors were also received by the department during the year:—

Dr. and Mrs. William Molner — Professor of Radiology at Ohio State University in the United States.

W. S. Yung, M.D., M.P.H. — W.H.O. Representative, Singapore.

Professor K. R. Hill — Professor of Pathology, Royal Free Hospital, School of Medicine, University of London.

Dr. G. H. Leslie — Director, Dental Division, New Zealand Department of Health.

Dr. Nguyen Tuan Auh — Psychiatric Specialist to the Ministry of Health of the Government of Vietnam.

Colonel Fuller — Dental Consultant, W.H.O.

Enche Abdul Rahman bin Hj. Talib — Minister of Health, Malaysia.

Datu Dr. Mohamed bin Ahmad — Director of Medical Services, Malaya.

Mr. James Marsh Thomson — Vice-Consul of the U.S. Embassy, Bangkok.

Mr. S. Polak — U.N.I.C.E.F. Representative, Bangkok.

Dr. W. E. Broughton — Chief Medical Officer, B.S.P. Co. Ltd., Brunei.

Dr. I. C. Fang — Regional Director for the Western Pacific Region, W.P.R.O., Manila.

Dr. O. Felsenfeld — W.H.O. Consultant in Cholera.

IV. STAFF

26. The Senior Staff of the department as on the 31st December, 1963, was as follows:—

Designation	*Establishment*	*Actual*	*Remarks*
Director of Medical Services ...	1	1	—
Deputy Director of Medical Services	1	1	—
Assistant Director of Medical Services	1	1	—
Ophthalmic Specialist	1	1	Kuching.
Medical Specialist	1	1	Kuching.
Surgeons	3	2	Kuching, Sibu and Miri.
Psychiatric Specialist	1	1	—
Senior Medical Officers	3	22	—
Medical Officers	22		
Dental Officers	6	4	—
Superintendents	9	7	1 R.C.B.M. Hospital. 1 Sarawak Mental Hospital. 2 Health Superintendents. 1 Travelling Dispensary Superintendent. 1 Medical Stores Superintendent. 1 Laboratory Superintendent.
Radiographer	1	1	Kuching.
Principal Matron	1	1	—
Matrons	2	1	—
Sister Tutors	2	1	—
Health Sisters	4	3	—
Almoner	1	1	—
Nursing Sisters	23	23	2 on temporary month-to-month terms.
Administrative Assistants	3	2	—
Pharmacist	1	—	—

27. The Director of Medical Services, Dr. D. A. Baird, left Sarawak on leave prior to retirement on 25th of September, 1963, having served as Director since he was appointed to Sarawak on 13th of November, 1959. He has been succeeded by Dr. R. Dickie as Acting Director of Medical Services.

28. The recruitment of Senior Staff has improved considerably during the year, a Medical Specialist and an Ophthalmologist having been recruited, together with four Medical Officers. Nevertheless the loss, already, of a Surgical Specialist and two Medical Officers under the Scheme for Retirement Benefits, and the knowledge that at least four other Medical Officers will be leaving the department either as the result of having reached the age for retirement or having served the periods of their contracts does not permit of any complacency as far as staffing is concerned. The scheme under which young doctors have been brought out from the United Kingdom on six months' contracts has worked satisfactorily. There were at the end of the year two such doctors serving in Sarawak, three others having served during the year. Three Medical Officers were promoted to be Senior Medical Officers during the year; the posts are, at present, merely prestige appointments, not carrying any increase in salary.

29. Approval was received towards the end of the year for contracts offering up to three tours each of three years to be offered to Medical Officers who might be interested in coming to Sarawak. It is believed that this will prove to be an important step towards attracting suitable Medical Officers to join the Sarawak Service, and to retaining their services, since it has been the short-term prospects to which they have been limited in the past, which have discouraged Medical Officers on contract from continuing in the service.

30. Two locally recruited Dental Officers have resigned during the year, which has been a heavy blow to the department, however the recruitment on contract of two expatriate Dental Officers, whose arrival is expected early in 1964, has helped to fill these gaps.

31. There have been heavy losses of senior nursing staff during the year, the Principal Matron, a Matron, and the Sister Tutor (Nursing) all having retired. Towards the end of the year recruitment of Nursing Sisters was sufficient to fill the establishment.

V. TRAINING

(a) Overseas

32. During the year seven members of the departmental staff returned to duty, having completed the following courses overseas:—

Course	*Number*	*Where taken*
Dentistry	1	New Zealand
Leprosy Nursing and Rehabilitation	2	India
T.B. Nursing	1	Australia
Post Graduate Medical (Diploma in Public Health)	1	United Kingdom
Radiography	2	Australia

33. In addition there were a further forty-nine Government sponsored Students and nineteen Serving Officers undergoing training in Medical or Para-Medical Subjects at the end of the year, as shown in the following table, making a total of sixty-eight in all:—

Course	*United Kingdom*	*Malaya or Singapore*	*Colombo Plan Countries*	*Total*
Medicine	1	3	20	24
Dentistry	—	3	2	5
Pharmacy	—	1	3	4
Dental Nursing	—	—	11	11
Public Health Nursing	—	1	—	1
General Nursing	13	—	—	13
Post-basic Nursing Course (Ward Sister)	1	—	—	1
Psychiatric Nursing	2	—	—	2
Social Welfare	—	2	—	2
Physiotherapy	—	—	1	1
Diploma of the Institute of Medical Laboratory Technology	2	—	—	2
Health Inspectors	—	2	—	2
				68

34. During the year it was learnt that the General Nursing Council of the United Kingdom had agreed to reduce to eighteen months the period that Sarawak trained nurses should spend in training in the United Kingdom in order to qualify for registration as State Registered Nurses.

35. The Colombo Plan Organisation has continued to be of great help to the department in providing scholarships for the training of staff of many categories. New Zealand, Australia, Canada, and India have all made valuable contributions in this respect. There has been a tendency more recently to send men and women to Malaya and Singapore for training, although the number of Sarawak students in these two countries is very small compared with the number of those in the former countries.

36. The World Health Organisation provided the following Fellowships and courses of training to officers of the department during 1963:—

1. For a Medical Officer to attend a training course in the Epidemiology and Control of Tuberculosis in Prague, Czechoslovakia.
2. For the Assistant Director of Medical Services (Health) to study the Malaria Eradication programmes in Ceylon, Mexico and Venezuela.
3. For an Entomological Technician to attend a course on entomology in Kuala Lumpur, Malaya.
4. For a Medical Officer to study national administrative procedures appropriate to Malaria Eradication programmes in Asian countries, in Manila, Philippines and North Borneo.
5. For a Health Superintendent to attend a Malaria Eradication Training Course in Manila, Philippines.
6. For a Medical Officer to study the Malaria Eradication programmes in Malaya, Taiwan, and North Borneo.

37. The World Health Organisation also enabled the Deputy Director of Medical Services to attend the meeting of the Regional Committee for the Western Pacific of the World Health Organisation which was held in Port Moresby, New Guinea, in September, and for a Medical Officer to attend a Seminar on Immunisation in the Control of Communicable Diseases, held in Manila, Philippines.

(b) Local

38. The training of staff has continued to be one of the most important functions of the department during the year.

26 Student Nurses passed the qualifying examination during the year, each having completed three and a quarter years' training.

17 Trained Nurses passed their midwifery examination during the year having completed one year's training in Midwifery.

14 Pupil midwives passed the midwifery examination during the year having completed two years' training in midwifery.

3 Student Health Inspectors received the Diploma of the Royal Society of Health during the year.

1 Student X-ray Technician completed a fourteen months' course of training for the Tuberculosis Project during the year.

6 Rural Health Overseers completed a course of nine months' training in rural health work.

8 Assistant Health Visitors (Tuberculosis) completed an eight months' course of training.

2 Malaria Microscopists completed a six months' course of training.

39. At the end of this year there were eighty-eight Student Nurses in training, eighteen Trained Nurses undergoing their midwifery training, and thirty-six Pupil Midwives in training.

40. There were also in training at the end of the year, in the various hospitals and sections of the department the following:—

Student X-ray Technicians	2
Student Laboratory Technicians	3
Student Dispensers	6
Assistant Health Visitors (Tuberculosis)	19
Rural Health Overseers	6

VI. DEPARTMENTAL AND DIVISIONAL ORGANISATION

41. The Medical Department is organised with a Headquarters presided over by the Director of Medical Services in Kuching, and staffed by the Deputy Director of Medical Services, Assistant Director of Medical Services (Health), Principal Matron and Senior Malaria Adviser, together with an office staff of thirteen persons. In each Division there is a Divisional Headquarters in the charge of a Divisional Medical Officer, assisted in some cases by a Health Sister and by senior members of the health inspectorate and malaria eradication project staff. There are also several independent sections of the department, each in the charge of an officer directly responsible to the Director of Medical Services; these are the General Hospital, Kuching, the Central Pathological Laboratory, which, through subsidiary laboratories in each division, serves the whole country, the Central Medical Stores, the Sarawak Mental Hospital, the Rajah Charles Brooke Memorial Hospital for leprosy patients, and the Dental Section.

42. During the year Divisional Medical Officers' conferences were held from January 15th to 18th and from July 9th to 12th respectively. At these conferences matters of policy and administration were discussed, and whenever it appeared to be of advantage, officers in charge of the various sections of the department, and officers with particular knowledge or experience of any subject under discussion were invited to assist in the discussions.

43. Meetings of the Departmental Committee on Nurses' and Midwives' training have been held, and during the year the committee has been expanded into a Departmental Commitee for Education and Training, whose responsibilities now embrace the planning and supervision of all training of staff in the department.

44. The Departmental Promotions Board has met as required and has made recommendations to the Public Service Commission regarding the promotions of various categories of staff.

45. The Departmental Drugs and Equipment Committee has met on two occasions. The duties of this committee are concerned with making recommendations regarding the drugs and equipment which are to be used by the department,

subjects which are kept constantly under review. During the year a small committee was set up to advise on the elimination of the use of trade names from the standard list of drugs stocked by the Central Medical Stores. This committee made a complete review of all drugs used and produced a report in which many changes were recommended including the elimination of all trade names; it also recommended the production of a departmental formulary on the lines of the British National Formulary.

VII. PREVENTIVE AND SOCIAL MEDICINE

Public Health

46. In the urban areas the responsibility for the maintenance of a satisfactory standard of environmental hygiene rests with the Local Authorities through their Health Inspectors. The Divisional Medical Officers act as advisers to the Local Authorities, and co-operation between them has been close.

47. The Public Health Ordinance became law on January 1st, 1963, as the result of which opportunity was provided for control over a great many factors affecting the environment in which the people of Sarawak, particularly the urban people, live. Its introduction has added considerably to the duties of those members of the department whose responsibilities include care for the preservation of the public health in Sarawak.

48. The pit latrines project in the First Division has made further progress, 274 such latrines having been dug, and provided with cement squatting slabs, during the year. Since the Rural Health Improvement Scheme has become an established activity of the department, the provision of pit latrines, and the improvement of longhouse and *kampong* water supplies by the means of dams and piping have been effected in many longhouses in the First Division.

49. Protective inoculation against diphtheria, tetanus, and whooping-cough has continued to be provided in all Maternal and Child Health Clinics, and free vaccination against small-pox is available at all government medical centres in the country. Free vaccinations against poliomyelitis using the Salk-type vaccine has been available, but towards the end of the year a decision was taken to change to the use of the Sabin oral vaccine. A large number of cholera vaccinations has been given during the year, many for prophylactic purposes in those areas where cases of the disease have occurred, others for the benefit of persons wishing to travel outside the country. During the time of the severe floods a mass vaccination campaign with TAB vaccine, was carried out in the flooded areas as a prophylactic measure against typhoid fever.

50. The incidence of diphtheria in Kuching, Sibu, and the Fourth Division has been high and it is clear that this disease will not be controlled until a systematic inoculation campaign against it can be carried out.

51. The gift during the year by U.N.I.C.E.F. of thirty-five kerosene refrigerators for the storage of vaccines in the rural dispensaries has proved a valuable help to the dispensaries, and has made possible the considerable increase in the amount of immunisation work which has been done in the rural areas. The Local Authority Maternity and Child Health Clinics have also made use of these refrigerators for the keeping of vaccines.

Health Education

52. Health education continues to be an activity on which the department places considerable hope for the betterment of the health of the population of Sarawak. During the period of the floods, and wherever cholera has occurred, many means of publicity have been used to inculcate ideas of cleanliness and hygiene, both personal and environmental. All member of the departmental staff who are in a daily contact with the people have been impressed with the need to teach as well as merely to give help.

Maternal and Child Health Services

53. These are primarily the responsibility of the Local Authorities, but the training of the midwives who largely staff them has remained in the hands of the Medical Department. Sibu Urban District Council employs a qualified Health Sister, and, for a part of the year until she unfortunately had to return to the United Kingdom due to ill-health, the Kuching Municipal Council employed a Health Sister who was seconded from this department. Since January, 1963, the Kuching Municipal Council has employed its own Medical Officer of Health, who has been responsible for the organisation of all Maternal and Child Health Services in the Kuching Municipal Council Area. On 1st June, 1963, the Maternal and Child Health Clinic at Sekama Road in Kuching was handed over to the Kuching Municipal Council. On 8th August, 1963, the Maternal and Child Clinic at the Health Centre, Kuching, which occupied the upper floor of the building was similarly handed over with its staff and equipment to the Kuching Municipal Council. The Medical Department continues to supply, without repayment, certain drugs and medical supplies to these clinics. Having been relieved of the duties in connection with the Urban Maternal and Child Clinics the departmental Health Sisters found themselves free to travel much more frequently and widely with obvious advantage to the women and children in the rural areas. U.N.I.C.E.F. has supplied the equipment for the new clinics in Miri, Simanggang and Limbang. U.N.I.C.E.F. has also supplied large quantities of dried, powdered, skim milk for use in schools, and clinics in Sarawak, and Vitamin A-D capsules for use in Maternity and Child Health Clinics.

VIII. EPIDEMIC AND ENDEMIC DISEASES

(a) Malaria

54. The Sarawak Malaria Eradication Project unfortunately suffered several setbacks during the year, the most severe of these resulting from the border raids carried out by Indonesian-based terrorists. Because of these raids, security precautions were introduced in the border areas which limited the activities of spraying and surveillance personnel working there. In addition there were several new foci transmission detected in areas in the consolidation phase, which retarded the progress of the Project. Finally there was a sudden high increase in the number of malaria cases in the border areas of the First Division, which was possibly due to outdoor transmission. In the rest of the country, not included in the border areas, every effort was made to maintain surveillance activities, and augment the existing passive case detection posts, since an adequate passive case detection system will facilitate the introduction of the maintenance phase in those areas which have not had an indigenous case of malaria during the previous three years.

55. Training continued during the year with refresher courses for various categories of the Project staff. A course for investigators was completed in May, 1963, and two other courses of training were also completed for Squad Leaders and

Senior Squad Leaders. Three Medical Officers, one Health Superintendent, and one Entomological Technician were awarded World Health Organisation fellowships during the year for specialised study abroad in malaria eradication techniques.

56. The Project continued to receive International Assistance from the World Health Organisation in the form of advisory services, funds for local costs, supplies and equipment, and, as mentioned already, fellowships. The World Health Organisation Advisory Team consists of a Malariologist, an Entomologist, and a Sanitarian.

57. The Project is described in greater technical detail together with relevant statistics in Part II of this report.

(b) Tuberculosis

58. The Tuberculosis Control Project continued to make progress in Kuching and Sibu, in spite of minor interruptions to activities when the Project staff were called upon for special duty in cholera-infected areas. In Kuching all wards and schools in the Council area were covered by the end of the year, and the *ulu* phase of the Project can now start in the First Division. In Sibu, where activities commenced towards the end of 1962, activities will continue into 1964 before the *ulu* phase can start in the Third Division.

59. Training of staff for the Project has continued under the Colombo Plan Nursing Sister and Colombo Plan Radiographer. One X-ray Technician completed his training in September, 1963, and also eight Assistant Health Visitors. Another batch of nineteen trainees recruited from all Divisions was accepted in November, 1963 for training as Assistant Health Visitors, and two X-ray Technicians were also undergoing training at the end of the year. A refresher course of training for trained Assistant Health Visitors, lasting three weeks, was also completed in May, 1963.

60. The Project continued to receive Colombo Plan Aid from Australia, and financial assistance from the Colonial Development and Welfare Fund. The Colombo Plan Aid consisted of supplies and equipment, including two vehicles, and also the continued services of a Nursing Sister and Radiographer. The Radiographer completed his tour of duty with the Project in September, 1963.

61. During the year, in addition to the training of staff, the construction of two quarters commenced in Simanggang, in preparation for the extension of activities to the Second Division.

62. The Project is described in greater technical details, together with relevant statistics in Part II of this report.

(c) Rural Health Improvement Scheme

63. This Scheme made a late start, and the first batch of six trainees from the Bau District was only recruited in March, 1963, and completed their training as rural health overseers in September. A new batch of trainees from the Serian District was recruited in December, 1963.

64. The first batch of trained rural health overseers is working in close co-ordination with agricultural extension workers in the Bau District of the First Division. Each has a number of *kampongs*, numbering from five to six in his area, wherein satisfactory environmental sanitation will gradually be instituted, with the co-operation of *kampong* people. The improvement in sanitation will be introduced and maintained on a "self-help" basis.

65. During the year a new classroom and quarters, for use as a permanent training school, were completed at Tarat in the First Division. Plans for the construction of a relatively simple and inexpensive type of accommodation for trained rural health overseers were drawn up during the year. In addition a request for more training equipment was submitted to the United Nations International Children's Emergency Fund towards the end of the year. Supplies consisting of a vehicle and other items of equipment, which were requested at the commencement of the Scheme, were received during the year.

66. The Scheme is described in greater detail, together with relevant technical data, in Part II of this report.

(d) Cholera

67. There were two outbreaks of cholera in Sarawak during 1963. The type of infection was the same in both cases, namely Cholera "El-Tor"—Ogawa strain.

68. The first outbreak took place in the First Division in January, and seven cases with no deaths were notified. The second outbreak commenced in July and lasted until the end of the year, during which cases occurred in both the First and Second Divisions. 97 cases including 7 deaths were notified from both Divisions during the second outbreak.

(e) Leprosy

69. Considerable advances in the treatment of leprosy and its effects have been made during the year. The standard treatment now consists of starting with Diphenyl Thiourea (D.P.T.) and after the full dosage has been attained adding Inunction with Etisol. After about a year Diaminodiphenylsulphone (D.D.S.) is slowly added and when the full dose of D.D.S. has been established D.P.T. is gradually withdrawn. Although there have been disappointments, this regime seems to be the most satisfactory that has yet been tried in Sarawak. During the year surgical rehabilitation has been undertaken in a considerable number of patients for the first time in this country.

70. An account of the works of the Rajah Charles Brooke Memorial Hospital for the treatment of leprosy will be found in another place in this report.

(f) Endemic Goitre

71. Iodised salt for the prevention of endemic goitre has continued to be distributed throughout the Third Division from the Salt Iodisation Plant in Sibu. During the year plans were drawn up and the plant purchased for a similar installation for Kuching and it is hoped this equipment will be in use early in the new year.

(g) Dysentery and Enteric Fever

72. Dysentery and diarrhoea in their many forms have continued to be the greatest cause of morbidity amongst the patients admitted to the hospitals and restbeds in the territory and typhoid fever continues to be endemic. It is not anticipated that any significant improvement will be made in the incidence of these diseases until the impact of the Rural Health Improvement Scheme, now getting under way, has been fully felt.

(h) Trachoma

73. The Ophthalmologist has reported only thirty-four cases of trachoma from amongst all those patients whom he has seen throughout the territory. It is apparent that this disease is not of major significance in Sarawak. Further details about eye diseases will be found in another part of this report.

(i) Quarantinable Diseases

74. Cholera has occurred sporadically in the First and Second Divisions during the year. A report on this disease is to be found in paragraphs 67 and 68 above.

IX. HOSPITALS AND DISPENSARIES

(a) General Hospitals

75. There were no major additions or alterations to the General Hospitals during the year. The distribution of beds in the six Government General Hospitals, as at the 31st of December, 1963, was as follows:—

	General	*Obstetrics*	*T.B.*	*Infection*	*Mental*	*Total*
1. Kuching General Hospital	234	49	76*	10	—	369
2. Lau King Howe Hospital, Sibu	171	32	48	19	10	280
3. Simanggang General Hospital	65	4	36	—	—	105
4. Miri General Hospital	77	10	61	—	—	148
5. Limbang Hospital	12	—	—	—	—	12
6. Sarikei Hospital	40	—	—	—	—	40
	599	95	221	29	10	954

76. In addition to the above, mission hospitals provide a further 129 beds, the majority of which are for obstetrics, although there is a small General Hospital of forty-six beds at Kapit in the Third Division run by the Methodist Mission. It is staffed by two doctors, a dentist, and a pharmacist, and it provides X-ray and operating theatre facilities. The other mission hospitals, run by the Roman Catholic Mission are sited as follows:—

Serian	First Division	12 beds
Sarikei	Third Division	10 beds
Mukah	Third Division	5 beds
Kanowit	Third Division	40 beds
Long San	Fourth Division	16 beds
		83

General Hospital, Kuching

77. This hospital serves the Kuching district and the whole of the First Division and the south-western part of the Second Division. It provides the full facilities of a General Hospital, each unit in it being under the direction of a specialist officer. It is also the main centre for Nursing and Midwifery training

---

* Including twenty beds in an annexe seven miles from Kuching.

in the country. In the grounds of the General Hospital, there is the Central Pathological Laboratory, a unit which serves the General Hospital and which, through its branches in each Division, serves the other General Hospitals in the territory. It is also the centre for the training of Laboratory Technicians. During 1963, the conversion of the former Medical Stores, in the grounds of the General Hospital, into offices, Nurses', and Midwives' Training Schools was completed and this accommodation has been brought into use. A start has been made on the conversion of the former offices and training schools into wards, which, when completed, will provide a much needed addition to the accommodation in the General Hospital. A new wing has been added to the Nurses Home providing accommodation for an additional thirty-two nurses in double rooms, together with public rooms. Work has also been commenced on the provision of new kitchens, dining room, laundry, and servants' quarters for the Nurses Home. At the Health Centre, which is the outpatient department of the General Hospital, a small X-ray department has been opened during the year. The number of medical staff in the General Hospital has increased considerably during the year but the number of trained nursing staff is still inadequate because nurses and hospital assistants, soon after they have been trained, have necessarily to be posted to hospitals and dispensaries throughout the country as they are expanded or newly opened.

78. There have only been minor changes and improvements made in the other General Hospitals during the year, but in each of them the amount of work done has markedly increased. The two newest hospitals at Limbang and Sarikei have proved to be of great value to the districts which they serve.

(b) Static and Travelling Dispensaries

79. There were thirty-three static dispensaries and ten travelling dispensaries in operation throughout Sarawak at the end of the year. New dispensaries were opened during the year at Pusa, Daro, and Muara Tuang and the dispensaries at Belaga, Engkilili, Saratok, Serian and Bintulu were rebuilt, whilst that at Lingga was converted to conform to the standard plan for a dispensary which is now used. The travelling dispensary previously stationed in Bekenu has now been moved to Niah which has meant that the dangerous sea passage between Kuala Sibuti and Kuala Niah can be avoided. Attendances at dispensaries throughout the country continue to increase. The value of the special course of training for Hospital Assistants which is given at Miri and which is aimed at equipping them particularly for service in rural dispensaries has been proved during the year by the men who have attended this course and who have subsequently been posted to outstation dispensaries. It is found that these men are able to tackle more efficiently and with more confidence the problems which they meet during their somewhat isolated and lonely working existence. Two of these special training courses were held during the year attended by a total of twenty-two Hospital Assistants.

80. The number of restbeds in static dispensaries is now 234, the distribution of which is shown below:—

First Division	*No. of Restbeds*
Bau Dispensary	4
Lundu Dispensary	4
Serian Dispensary	5
Tebakang Dispensary	4
Nonok Dispensary	3
Simunjan Dispensary	5
Muara Tuang Dispensary	5

Second Division	*No. of Restbeds*
Lubok Antu Dispensary	4
Engkilili Dispensary	5
Lingga Dispensary	7
Sebuyau Dispensary	7
Betong Dispensary	15
Spaoh Dispensary	8
Debak Dispensary	0
Pusa Dispensary	6
Saratok Dispensary	6
Kabong Dispensary	10
Third Division	
Binatang Dispensary	12
Matu Dispensary	6
Dalat Dispensary	6
Mukah Dispensary	8
Balingian Dispensary	6
Daro Dispensary	6
Kanowit Dispensary	10
Julau Dispensary	14
Song Dispensary	8
Kapit Dispensary	4
Belaga Dispensary	8
Fourth Division	
Marudi Dispensary	10
Bintulu Dispensary	14
Bekenu Dispensary	10
Fifth Division	
Lawas Dispensary	10
Sundar Dispensary	4
Total	234

(c) Ulu Dressers

81. All the *ulu* dressers in the country were absorbed into the Government establishment on January 1st, 1963. These men, selected from *kampongs* and longhouses, and given a short training in simple medical and surgical first aid and treatment, and paid a small salary, were intended to carry deeper into the rural areas the services of the Medical Department. Unfortunately, this scheme has not proved entirely successful and it has been decided that it shall gradually be run down. Consequently, there has been no further recruitment of *ulu* dressers

during the year and those who have resigned for one reason or another have not been replaced.

82. The number of *ulu* dressers in service at the end of the year was forty-eight, distributed as follows:—

First Division	6
Second Division	9
Third Division	5
Fourth Division	25
Fifth Division	3

(d) Home Helps

83. When it was realised that the *ulu* dresser scheme was not going to prove a success, it was decided to try to replace them by a number of volunteer workers to whom the title of Home Help was given. The means of selection of these workers is very similar to that of the *ulu* dressers but they are not paid workers. Their training, which is carried out by the Travelling Superintendent, is of the simplest nature and of very short duration, a matter of a few days. They are supplied by the Medical Department with a very simple scale of drugs and equipment, and their purpose is to give first aid and simple medical treatment to the persons living in their own or neighbouring longhouses. They are supervised by the Travelling Superintendent and members of the divisional medical staff during their travelling, and their supplies are replendished from travelling or static dispensaries. This scheme has, so far, proved to be a great success. The Home Helps themselves have been enthusiastic and co-operative and the demand for their services and for more to be trained is greater than at the moment can be met. There are at present a total of 302 Home Helps distributed as follows:—

First Division	69
Second Division	69
Third Division	74
Fourth Division	74
Fifth Division	16

X. SPECIAL HOSPITALS

(a) Sarawak Mental Hospital

84. This hospital is the only hospital for the treatment of patients with mental disease in the territory. It has continued to expand its activities during the year. The staff from this hospital regularly hold outpatient clinics in Kuching town, Sibu and in Sarikei, and with the training which has been given at this hospital to groups of Hospital Assistants, a small start has been made to extend the care of the mentally sick to dispensaries in the rural areas of Sarawak. There has been a small overall increase in the staff of the hospital during the year but the retirement of both of the two Superintendents has left a gap which it will be difficult to fill.

85. Training continues to be an important part of the work of this hospital and during the year three nurses passed their final examinations in mental nursing. At the end of the year, two courses of training in mental nursing were in progress,

comprising a total of eleven pupils. There are at present two nurses undergoing training in mental nursing in the United Kingdom. A course was held in August and September, 1963, for assistant psychiatric nurses. It was based on practical essentials and it is considered to have been a success. A further course for Hospital Assistants was held in June and July during which they are were instructed in methods for the follow-up treatment of discharged patients, the management of early cases of mental disease, and the documentation of mental states in courts of law. Visits to the hospital were made during the year by Dr. Nguyen Tuan Auh, the Psychiatric Specialist to the Government of South Vietnam, who spent ten days in Sarawak studying mental health management under the auspices of the Colombo Plan Organisation; the Director of Medical Services, F.A.R.E.L.F.; and the Director of Medical Services, Malaya. New methods of treatment and the use of new drugs have continued to be tried with some interesting results and a further attempt to organise outpatient classes has been made. There has been no major building done during the year.

(b) Rajah Charles Brooke Memorial Hospital

86. This hospital is the centre for the treatment of all patients suffering from leprosy in Sarawak, Brunei and Sabah. It is situated at the 13th Mile, Penrissen Road near Kuching. There is accommodation for 400 patients, most of whom live in houses or longhouses in their normal manner within the compound. There is hospital ward accommodation for approximately eighty patients. This is used for patients suffering from severe reactions or those undergoing surgical treatment, or who are being treated for some intercurrent disease. There is a lay Superintendent in charge of the whole hospital assisted by a small staff of hospital assistants, assistant nurses, and patient helpers. The medical work is supervised by a visiting medical officer, and a visiting surgeon has for the first time during this year undertaken surgical rehabilitation work for the crippled and deformed. A Physiotherapist attached to the General Hospital, Kuching, visits this hospital twice weekly to conduct massage and exercise sessions and to undertake pre- and post-operative physiotherapy. There is a workshop in which artificial limbs are made by hand. There are many gardens, pepper gardens, a rubber plantation, and orchards of fruit trees, which have been planted and are attended by patients in the hospital. Considerable improvements to the buildings of the hospital wards and their ancillary buildings have been made during the year. Water borne sanitation and bathrooms have been provided in the wards. Two staff quarters have been completed and two more have been started. A kitchen and laundry block for the hospital has been almost completed, an extension has been made to the hostel which was originally built from Belra funds, and a mortuary is now being built. A new lighting generator has been added to the existing one, and a simple chlorinating apparatus has been installed in the water supply. More than seventy patients are employed in the Hospital Wards, School, and Workshops, and in the maintenance and repair of buildings, maintenance of grounds, gardens, and plantations. The series of courses of training for Hospital Assistants in leprosy was continued when a course was held in June and July of this year. The purpose of these courses is to give theoretical instruction and practical training in the epidemiology, diagnosis, treatment, and prevention of leprosy. Twenty-two Hospital Assistants, almost all of whom have now been posted to rural dispensaries, have now attended these courses. These men will play an important part in the campaign for the control of leprosy in Sarawak which it is hoped to institute in the near future. During this year, one member of the staff has returned from a course in leprosy physiotherapy, held at the Christian Medical College, Vellore,

Southern India, and another member has spent eight months on a course in pre- and post-operative techniques associated with surgical reconstruction and rehabilitation of deformities and disabilities held at Chingleput, Southern India. Another member of the staff has undergone a period of training in anaesthetics in the General Hospital, Kuching, and yet another, a course in simple radiography. It has been most encouraging to note the stimulating effect upon the whole hospital of the introduction of surgical rehabilitation and reconstruction for patients during the year. Thirteen Tibialis Tendon Transfer operations have been done as well as numerous other operations. Efforts have continued to be made to devise a satisfactory form of footwear for patients with damaged and insensitive feet, without, unfortunately, having achieved complete success. The school in the compound continues to perform a valuable service for the children in this hospital, and has derived great help from the Schools Broadcasting Service provided by Radio Sarawak. The Kuching Branch of the British Red Cross Society has continued to give much assistance and to show a great interest in the work of this hospital, and the Salvation Army Girls Home has, as in the past, shown the greatest kindness in accepting responsibility for the care of children born in this hospital whilst the parents are undergoing treatment. The regular visits of priests of the Anglican Church of Borneo and the Roman Catholic Mission have continued and have been much appreciated.

XI. SPECIALISED SERVICES

(a) Ophthalmic Services

87. The new Ophthalmic Specialist arrived in Sarawak in January of this year. It is two years since the department has had the services of an Ophthalmic Specialist. His arrival inevitably resulted in a very great increase in the number of persons attending the Eye Clinic in Kuching and amongst the early attendances was a large number of blind persons two-thirds of whom had lost their sight due to cataract, and were therefore curable. Many of them have had their sight restored during the year. Sixty-nine days have been spent in travelling by the Specialist, visits having been paid to the Second and Third Divisions. In the Third Division, he managed to travel in both urban and rural areas so that a good chance of obtaining a cross section of eye diseases and conditions as they occur throughout Sarawak has been obtained. It is of great interest that only thirty-four cases of trachoma have been seen amongst the many thousands of patients and healthy persons whose eyes have been examined and more than 50 per cent of these trachoma patients proved to have been middle aged and elderly Chinese, many of whom had come from China and in their youth. Seventy-five blind patients were seen in the Kuching Eye Clinic, forty-nine of these suffered from cataract and other treatable causes. Twenty-six were hopelessly blind for a wide variety of reasons, but it has been noticed that infection, that is conjunctivitis and is sequelae, is an important cause of avoidable blindness, especially in the young. A considerable amount of time has been devoted to the study of the cause of blindness with a view to promoting its prevention. In the furtherance of this purpose much time has been given to lecturing to nurses, and hospital assistants, and public organisations, and to talking to village and longhouse communities on the subject of the eye and the preservation of its health. A series of radio talks has been prepared on this subject for broadcast in all local languages. The Ophthalmologist is also engaged in a complete survey of the incidence of ocular disease in the patients suffering from leprosy in the Rajah Charles Brooke Memorial Hospital. He is intimately associated with the work of the Sarawak Society for the Blind whose training centre in Kuching was opened in August of this year.

(b) Dental Services

88. This year has been a most disappointing one from the point of view of the staffing of the dental section, as far as dental officers have been concerned. The resignation of two dental officers has put a great strain on the remaining dental officers. A more statisfactory state of affairs can be reported regarding the establishment of dental nurses because during the year, the number of those in Sarawak has increased from three to eight. Four dental nurses returned from training in New Zealand in June, enabling a start to be made with the School Dental Health Scheme for which preparations have been in progress for some time. Four schools in Kuching and Sibu now each have a full-time dental nurse working in the school as a member of the school staff, and in Miri and School Dental Nurse is stationed at the Community Hall serving four primary schools within a quarter mile radius of the Community Hall. With a view to expanding this scheme, four more girls were sent in March to New Zealand from Sarawak for training. With the limited time at their disposal, efforts have been made by the dental officers to stimulate the public interest in dental health and dental care. Visits to schools have been made and some talks have been given over Radio Sarawak on the subject of dental health. Progress has been made with the flouridation of the public water supplies and seven of these supplies serving a total population of approximately 43,000 persons have now been treated and steps have been taken to include the whole of the public water supplies of Sarawak in the flouridation scheme.

(c) Pathological Services

89. The Central Pathological Laboratory situated in the grounds of the General Hospital, Kuching, serves the General Hospital, Kuching, provides a centre for the training of Laboratory Technicians for the whole country, and is the administrative centre for the branch laboratories which have been established in all the hospitals, general and special, in the five Divisions of the country. The technical work in all the laboratories is now standardised and a programme of refresher training for the older members of the technical staff is in operation. No new laboratories were established during the year but some expansion of those in Sibu and Miri took place. Twelve pupil technicians have been in training during the year and two trained technicians were sent to the United Kingdom in September, to undergo training leading to the Diploma of Associateship of the Institute for Medical Laboratory Technologists. Since the Central Laboratory is now recognised by the above Institute as a training centre for its Intermediate examination, these two technicians will now be away from Sarawak for only a little over two years instead of the five or six years which was the case previously. Seven student technicians passed their qualifying examinations during the year. These examinations were conducted by members of a visiting Medical Research Council team, and the papers and practical examinations were based as nearly as possible on the standards for the intermediate examination of the Institute for Medical Laboratory Technologists. The demand for histopathological services has shown a continued increase during the year and the reference service of the Central Laboratory has been kept busy with investigations which cannot be carried out in the Divisional Laboratories. These investigations are principally in the serological field, but extensive use has also been made of the facilities available for detailed study of intestinal pathogens, investigation of anaemias, and pregnancy tests. The Central Laboratory has continued to supply all the reagents, culture meidia, and stains ready prepared to the divisional laboratories thereby ensuring uniformity of standards. The visit of a Medical Research Council team to Sarawak to investigate encephalitis has provided a considerable stimulus to the

study of virus diseases in general, and to leptospirosis in particular. Facilities for the cultivation of leptospirae and serological testing for this disease are now available at the Central Laboratory and the early results obtained have been very encouraging. Close contact has been maintained with the Medical Research Council team since their return to London and the collection of specimens for further virological studies, continues. There have been no major structural alterations to the laboratories during the year but a considerable amount of work has been done in re-equipping them with new benches, air-conditioning, office furniture and equipment.

90. The blood transfusion service which is run in Kuching jointly by the Kuching Division of the British Red Cross Society and the Central Laboratory has continued to function smoothly and has benefited greatly by the generosity of the large number of British troops who have been brought to Kuching as a result of the border emergency. The Central Laboratory has throughout the year continued to run to Central Syringe Service for the General Hospital, Kuching.

(d) X-ray Services

91. There are diagnostic X-ray units in each of the General Hospitals in the Administrative Headquarters of the five Divisions, Kuching, Simanggang, Sibu, Miri, and Limbang, and also in the General Hospital in Sarikei in the Third Division. These provide a wide range of dianostic facilities. There are also Chest Clinics in Kuching and Sibu, using mass miniature radiography cameras. During the year a small X-ray department has been opened in the Health Centre, Kuching, and work has started on the construction of an X-ray department at the Rajah Charles Brooke Memorial Hospital.

92. Two members of the X-ray staff attended, during the year, a nine months' course in radiography at Melbourne, Australia.

(e) Physiotherapy Services

93. This service, which is staffed by a Physiotherapist, jointly financed by the British Leprosy Relief Association and the British Red Cross Society has been of great value to the General Hospital, Kuching, and to the Rajah Charles Brooke Memorial Hospital. A student is in training in New Zealand on a Colombo Plan Scholarship to become a Physiotherapist. Plans have been prepared for the establishment of a permanent physiotherapy department in the Rajah Charles Brooke Memorial Hospital. The first steps have been taken to set up a workshop for the production of braces and artificial limbs for the whole territory at the General Hospital, Kuching, where accommodation has been made available.

(f) Medical Stores Services

94. This Section consists of the Central Medical Stores, Kuching, the Medical Stores, Sibu, and the Medical Stores, Miri, and the dispensaries in each of the hospitals in the country. The Central Medical Store is under the direct control of the Superintendent of Medical Stores, and he holds a supervisory and advisory capacity in relation to the other medical stores and dispensaries in the territory, all of which are staffed by members of his staff.

95. The Central Medical Stores are responsible for the purchase, storage, and distribution of all the drugs, stores and equipment used in the territory, with the exception of certain supplies that are shipped direct to Sibu by the

Crown Agents. The Central Medical Stores also provides very busy manufacturing laboratories in which large quantities of the tablets and other pharmaceutical preparations, which are used by the department, are prepared. The output from these laboratories has been increased during the year by the installation of an additional electrically operated drying oven.

96. The training of dispensers is undertaken at the Central Medical Stores, and three student dispensers were recruited during the year. One trained dispenser was sent of New Zealand, on a Colombo Plan scholarship, to undertake a course in pharmacy, and another trained dispenser was sent to Australia under the Colombo Plan to undergo nine months' course of training in practical dispensing.

(g) Almoner's Section

97. There is only, at present, an Almoner's section in the General Hospital, Kuching. It is staffed by an Almoner, who has one assistant. This has proved to be a very valuable unit in this hospital, and consequently two young women have been sent to the University of Singapore for training as Almoners. On their return, it is intended to begin the expansion of this section and the introduction of Almoners into the other General Hospitals. There are countless problems connected with the reduction or waiving of hospital charges in the case of poor patients, the making of travel arrangements for discharged patients, including the provision of free bus, taxi, or launch passages, the tracing of parents and relatives, the relief of hardship in houses from which patients have come, and similar matters which make the services of an Almoner quite indispensable. It has been found too that the Almoner can greatly help in maintaining a rapid turnover of patients because she is able to make arrangements for the return to their homes of patients fit for discharge, who, having come from the more remote rural areas, are neither able to cope with the problems of finding temporary accommodation in a large town, nor of finding the means to return to their longhouses.

(h) Maternal and Child Health Services

98. Progress has been maintained in the field of Maternal and Child Health. The Medical Department has now three Health Sisters, one for the First and Second Divisions, one for the Third Division, and one for the Fourth and Fifth Divisions. In addition the Sibu Urban District Council employs a Health Sister in charge of its Clinic and Domiciliary Midwifery Services. With the Divisional grouping of Health Sisters greater supervision of the work of the midwives in the rural areas has become possible and is showing results.

99. During the year ten midwives sponsored by various local authorities completed their two years' training and returned to their own areas to practise as registered midwives.

100. In June the Kuching Municipal Council took over the administration of the Sekama Road Clinic and in August the Central Clinic at the Health Centre together with the Domiciliary Midwifery Service.

XII. VOLUNTARY ORGANISATIONS

101. The Social Welfare Council has continued to act as the central welfare agency to which Government funds for welfare work are paid over for distribution to various charitable organisations in Sarawak.

102. The Sarawak Branch of the British Red Cross Society has continued its work of relief for the victims of fires and other disasters, the training of first aid workers, the organisation of blood transfusion services in Kuching, Miri and Simanggang and the running of a transit hostel in Kuching for patients and their relatives and friends, from distant places, who require some place to stay for a day or two, when visiting Kuching for medical attention. The Red Cross physiotherapist, jointly sponsored by B.L.R.A. has been of great help to the spastic and crippled children attending the classes held at Red Cross Headquarters.

103. The Anti-Tuberculosis Society of Sarawak (A.T.A.S.) has maintained its interest in the anti-tuberculosis project in Kuching and voluntary workers have assisted in various ways such as counting and packaging P.A.S. and I.N.H. tablets. An honorary almoner has investigated all cases requiring food parcels or other assistance. The two tuberculosis longhouses at Marudi and Bintulu in Fourth Division maintained by the Miri branch of A.T.A.S. have continued to provide accommodation for patients on routine treatment.

104. The Rehabilitation Centre for the Blind subscribed for by public subscription and built for the Sarawak Society for the Blind, was opened by His Excellency the Governor on August 16th, 1963. It is designed to accommodate fifty-two blind trainees of whom twenty-eight will be men, twelve women and twelve children. At present there are twenty blind men in residence. The training is principally rural and when in full swing, will include vegetable and fruit cultivation, animal husbandry and the care of fish ponds and similar rural pursuits. Crafts being taught are rural, crafts including rough carpentry, *kampong* house building, the making of baskets, fishing nets and rope. All these are made from local materials which the blind trainees prepare from the raw state. The Sarawak Society for the Blind is fortunate in having the services of Mr. R. A. Babonau who has been lent to the Society by the Royal Commonwealth Society for the Blind to help in the development of blind welfare in Sarawak and who has made himself personally responsible for the administration and work of the training centre.

105. The Salvation Army has continued its invaluable work in maintaining homes for boys and girls requiring care and attention and for the aged. Children born to parents with leprosy, in the Rajah Charles Brooke Memorial Hospital, have also been looked after in the Girls Home.

106. The Sibu Benevolent Society maintains a Nursing Home in Sibu and an old peoples home "McCarthy Lodge" at Salim on the Rejang River. The former is for aged men and chronic cases of tuberculosis. A medical officer from the hospital in Sibu, visits it periodically. The caretaker has been trained as a "home help". The latter accommodates old people of both sexes. A sub-committee of the Benevolent Society looks after the blood donor panel, as there is no branch of the Red Cross Society in Sibu.

107. In Miri, a home for aged paupers is run by voluntary relief committee. In Kuching, a Home for the Aged is maintained by the Sarawak Social Welfare Council. It is situated twelves miles from Kuching on the Simannggang Road, and accommodates 130 old people. There is a hospital ward for thirty patients which is run with the help of Roman Catholic nuns and is visited regularly by the Divisional Medical Officer, First Division.

PART II

Introduction

In Part II of this Report will be found certain statistics which provide an indication of the work done in this department during 1963, and which will enable comparison to be made with the work of previous years. Statistical reports of the Sarawak Malaria Eradication Project, and the Tuberculosis Control Scheme are also included.

I. GENERAL HOSPITALS

(a) In-Patient Returns

1. The following are the in-patient returns for all Government hospitals for 1963. These are compared with the previous four years:—

Hospital	*1959*	*1960*	*1961*	*1962*	*1963*
Kuching General	8,395	8,416	8,589	9,900	10,397
Lau King Howe, Sibu ...	5,637	6,028	7,320	7,525	8,677
Simanggang General ...	1,326	1,625	1,559	2,147	2,798
Miri General	2,079	2,812	3,475	3,447	3,660
Limbang General	—	—	—	517	579
Sarikei General	—	—	—	178	1,881
Total ...	17,437	18,881	20,943	23,714	27,992

N.B.—These figures include all normal deliveries in hospital.

2. There has therefore been an increase in the total number of in-patients treated in hospitals, of 4,278 compared with the 1962 figure. Although this increase has been spread over the whole country, it is most marked in Sibu, Sarikei and Simanggang where the construction of roads has made it much easier for sick persons to get to hospital.

(b) Out-Patient Returns

3. Out-patient returns for hospital out-patient departments are shown below. These are compared with the 1961 and 1962 returns:—

Hospital Out-Patient Department	*No. of New Patients Treated*			*No. of Minor Operations Performed*		
	1961	*1962*	*1963*	*1961*	*1962*	*1963*
Kuching:						
(a) Health Centre	24,273	24,835	32,618	1,557	2,430	2,274
(b) Senior Service Clinic ...	2,252	2,410	5,849	420	516	601
Sibu	32,646	40,719	44,136	881	1,145	2,272
Simanggang	10,520	14,968	21,263	219	429	449
Miri	31,897	15,019	13,096	881	—	1,856
Limbang	—	6,935	4,835	—	49	96
Sarikei	—	—	21,553	—	—	371
Total ...	101,588	104,886	143,350	3,958	4,569	7,919

4. There has been a considerable increase in the amount of work done in the out-patient departments of hospitals compared with 1962. The apparently greatly increased number of minor operations performed is due in part to a reclassification of the operations to be included in this table.

(c) X-ray Services

5. A summary of the work done in the various X-ray departments, attached to hospitals and out-patient clinics, is given below:—

	No. of Patients X-rayed	
	1962	*1963*
Kuching General Hospital	5,067	5,190
Chest Clinic, Kuching (Large)	3,050	2,489
Chest Clinic, Kuching (70 mm)	3,249	15,058
Lau King Howe Hospital, Sibu (Large) ...	17,341	9,647
Lau King Howe Hospital, Sibu (Miniature)	4,569	17,340
Simanggang Hospital	—	4,115
Miri General Hospital	4,752	4,984
Miri T.B. Hospital	5,490	3,709
Sarikei Hospital	—	1,284
Limbang General Hospital	461	1,230
Total ...	43,979	65,046

6. No records are available for the number of X-ray films taken in Simanggang Hospital in 1962. The X-ray unit in Sarikei Hospital was brought into use in 1963. The very large number of miniature films taken in Kuching and Sibu in 1963 were taken in the course of the Tuberculosis Control Project which was operating in those towns in 1963.

7. Returns from the two main general hospitals in Kuching and Sibu show the variety of work done in the X-ray departments of those hospitals:—

Nature of Film	*Number of Examinations*	
	Kuching	*Sibu*
1. Chest	2,373	5,290
2. Bone	2,283	2,652
3. Gall Bladder	47	123
4. Genito-urinary	303	329
5. Gastro-intestinal	287	255
6. Abdomen (straight)	160	480
7. Obstetrical	152	120
8. Sinuses	25	85
9. Miscellaneous	40	38
Total ...	5,670	9,372

(d) Physiotherapy Service, Kuching

8. The General Hospital, Kuching, is the only hospital in the country that has an established Physiotherapy Department. This has been built up during the past two years by a Physiotherapist whose services have been made available to the Medical Department through the generosity of the British Red Cross Society and the British Leprosy Relief Association, which share equally the cost of her salary. The Physiotherapist also holds classes for massage and exercises for hands and feet twice weekly at the Rajah Charles Brooke Memorial Hospital (for leprosy).

9. Patients treated in the Physiotherapy Department during the year 1963:—

In-Patients	
Number of treatments given	1,346
Out-Patients	
Number of treatments given	629
Electrical treatments	63
Total attendances at weekly Fracture Clinic	486

(e) Surgical Services

10. The number of operations performed on in-patients during the year in the various hospitals are shown below. These are compared with the four previous years:—

	1959	*1960*	*1961*	*1962*	*1963*
Kuching General Hospital ...	2,992	2,684	2,687	1,910	1,962
Lau King Howe Hospital, Sibu ...	3,379	3,046	3,890	3,581	3,297
Simanggang General Hospital ...	253	359	256	489	439
Miri General Hospital	—	2,117	2,344	3,601	726
Limbang General Hospital ...	—	—	—	78	55
Government Hospital, Sarikei ...	—	—	—	—	437
Total ...	6,624	8,206	9,177	9,659	6,916

The very much smaller number of operations recorded for the Miri General Hospital is due to the adoption of a new classification for the operations performed at that hospital (see table of out-patient statistics on page 2.)

11. There has not been any significant change in the types of surgical conditions treated in the various hospitals. Trauma accounts for the greatest number of operations in each hospital, and the second commonest cases are surgical emergencies such as acute appendicitis and perforated peptic ulcer. With the increase in the amount of traffic on the roads the number of fractures resulting from vehicle accidents is increasing steadily.

(f) Obstetrical and Gynaecological Services

12. There was a marked rise in the number of deliveries in hospital during the year in spite of an expanding domiciliary midwifery service. It is the practice to discourage the admission of normal multiparae for delivery.

	1960	*1961*	*1962*	*1963*
Kuching General Hospital ...	2,586	2,905	3,175	3,187
Lau King Howe Hospital, Sibu ...	1,097	987	1,029	1,419
Simanggang General Hospital ...	183	232	273	272
Miri General Hospital	330	546	564	590
Limbang General Hospital ...	—	—	22	38
Government Hospital, Sarikei ...	—	—	—	132
Total ...	4,196	4,670	5,063	5,638

13. The following table shows the number of maternal deaths in each hospital during the year, and a comparison is made with 1962:—

	1962	*1963*
Kuching	4	5
Sibu	6	2
Simanggang	2	2
Miri	0	0
Limbang	—	0
Sarikei	—	1
Total ...	12	10

This gives a maternal mortality of 1.66 per thousand for 1963 compared with 2.37 per thousand for 1962. It should be remembered that a large proportion of the cases admitted to hospital for delivery are abnormal, and that some are women in whom labour has been prolonged due to some abnormality and who have had to make difficult and obstetrically dangerous journeys to reach hospital.

14. The extent to which the hospitals catered for the obstetric abnormality is shown in the following table:—

	Kuching	*Sibu*	*Simanggang*	*Miri*	*Sarikei*	*Total*
Caeserean Section	69	41	8	27	4	149
Forceps Delivery	86	39	7	5	4	141
Manual removal of placenta ...	77	48	6	9	14	154
Plural births	45	30	2	7	4	88
Post Partum haemorrhage ...	126	123	14	32	11	305
Toxaemias of pregnancy and the puerperium	200	117	4	36	27	384
Abortions	305	358	87	116	57	923
Stillbirths	38	42	10	11	6	107

15. Gynaecological surgery is a major activity in the divisional hospitals, the extent of which is indicated by the fact that in the General Hospital, Kuching, 225 major and 421 minor gynaecological operations were performed during the year.

(g) Ophthalmic Services

16. The Ophthalmologist is based on and has his Central Clinic in Kuching, although he also visits and holds clinics in the other divisions, and he has made trips up some of the rivers in order to obtain an overall picture of eye conditions in Sarawak.

Eye Clinic, Kuching.

	1959	*1960*	*1961*	*1962*	*1963*
New patients treated ...	3,282	3,743	3,472	3,887	4,777

17. Analysis of conditions treated by the Ophthalmologist in various clinics during his tours in 1963:—

	Kuching	*Sibu*	*3rd Division Rural*	*Simang-gang*	*Miri*
Refractive errors and muscle imbalance	784	109	33	19	44
Strabismus	29	12	0	3	2
Conjunctivitis excluding trachoma	1,587	83	8	6	16
Trachoma	31	4	0	4	0
Other inflammatory and degenerative conditions	1,155	103	15	13	13
Trauma	406	24	3	5	3
Cataract	196	79	17	7	11
Glaucoma	26	10	4	1	3
Uveitis	22	11	1	2	1
Congenital and Hereditary ...	25	16	1	4	0
Neoplasia Benign	120	2	0	1	4
Malignant	1	0	0	0	0
Pterygium and Pinguecula	7	51	10	8	9
Optic Atrophy	5	5	0	0	1
Diseases of C.N.S.	7	6	0	0	0
Others	20	3	0	0	0

	Kuching	*Outstation*
Total Spectacles prescribed	332	80

18. The causes of blindness in patients seen in Kuching Eye Clinic and outstations were as follows:—

	Kuching	*Sibu*	*3rd Division Rural*	*Simang-gang*	*Miri*
Phthisis Bulbi	4	4	7	2	0
Uveitis	5	4	0	0	1
Glaucoma	4	2	3	0	1
Cerebral Tumour	3	1	0	0	0
Corneal Opacities	2	5	3	3	1
Myopic degeneration	2	1	0	0	0
Optic atrophy of unknown Aetiology	1	3	0	0	1
Senile mascular degeneration ...	1	0	0	0	0
Microphthalmos	1	0	0	0	0
Salzmanns Corneal Dystrophy ...	1	0	0	0	0
Sympathetic Ophthalmia	1	0	0	0	0
Retinitis Punctata albescens ...	1	0	0	0	0
Trachoma	0	2	1	1	0
Xerophthalmia	0	2	0	0	0
Totals ...	26	24	14	6	4

19. The age group of the twenty-six persons incurably blind seen in Kuching were: —

0 — 20 years	5
20 — 50 years	8
50 — over years	13

20. The number of eye operations performed during the year was as follows: —

Operation	**Kuching*	*Outstations*
Cataract Extraction	83	25
Glaucoma	—	1
Strabismus	7	3
Lachrymal sac	2	—
Detached Retina	2	1
Needling	17	6
Major Trauma	11	2
Other Intraocular	9	4
*Dacryocystorhinostomy	2	—
Enucleations	10	2
Other Minor	43	33
Total	186	77

II. SPECIAL HOSPITALS

(a) Sarawak Mental Hospital

	1962	*1963*
21. Total Admissions	535	577
New Admissions	293	280
Re-admissions	252	297
New admissions suffering from Schizophrenia ...	132	129
Number of Discharges	542	581
Number of deaths in hospital	16	11

22. The diagnostic classification of new admissions in 1963 was as follows: —

	Chinese	*Malay*	*Sea Dayak*	*Land Dayak*	*Others*	*Total*	*Per-centage*
Schizophrenias	60	26	27	9	7	129	46
Affective Psychosis	28	14	7	6	6	61	22
Organic Psychosis	13	14	7	3	3	40	14
Epilepsies	4	1	2	5	1	13	5
Neurological Disorders ...	3	—	—	—	—	3	1
Neurosis	14	9	—	1	1	25	9
Amentias	3	1	1	2	1	8	2
N.A.D.	—	—	1	—	—	1	1
Total	125	65	45	26	19	280	—
Percentage	45	21	17	10	7	—	100

---

* Kuching means Kuching General Hospital.

23. The percentage of voluntary and temporary admissions was approximately the same in 1963 as it was in 1962.

Percentage of Voluntary Patients

1959	17
1960	46
1961	63
1962	83
1963	84

24. New Out-patients Registered:—

	Kuching	*Sibu*	*Total*
1959	207	—	207
1960	290	—	290
1961	310	290	600
1962	264	160	424
1963	236	219	455

25. Out-patient Attendances at all Out-patient Clinics:—

Year	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*	*1963*
No.	—	12	40	48	88	367	1,743	3,227	3,871	4,316

26. Racial and Diagnostic Distribution of New Out-patients registered in 1963:—

Community	*Chinese*	*Malay*	*Sea Dayak*	*Land Dayak*	*Others*	*Total*	*Percentage*
Diagnostic Group							
Schizophrenias	143	26	23	3	16	211	46
Affective Disorders	50	19	10	2	8	89	20
Organic Psychosis	15	10	10	1	1	37	8
Epilepsies	13	1	1	1	0	16	3
Neurological Disorders ...	10	0	1	1	0	12	3
Neurosis	47	8	5	1	8	69	15
Amentias	10	0	1	2	0	13	3
N.A.D.	5	0	2	1	0	8	2
Total	293	64	53	12	33	455	—
Percentage of cases ...	64	14	12	3	7	—	100
Percentage of population ...	31	16	32	8	13	—	100

27. The following table summarises the work of this section since 1955:—

Year	*Admissions to S.M.H.*	*Discharges from S.M.H.*	*Deaths in S.M.H.*	*New Out-patients in Kuching and Sibu*	*Total Out-patient attendances at Clinics*
1955 ...	132	75	29	2	12
1956 ...	154	110	24	13	40
1957 ...	174	110	27	8	48
1958 ...	195	120	34	19	88
1959 ...	338	342	15	207	367
1960 ...	429	405	24	209	1,743
1961 ...	581	567	21	600	3,227
1962 ...	544	542	16	424	3,871
1963 ...	577	581	11	455	4,316

(b) Rajah Charles Brooke Memorial Hospital (for Leprosy)

28.

	1962	*1963*
Number of Patients admitted	87	57
Number of Patients discharged	82	65
Number of deaths	12	6
Number of Patients in hospital on the last day of the year	368	354

Five of the admissions were readmissions. Eigtheen came from Sabah.

Twenty-one (36%) were smear negative on admission, and thirty-five (64%) were smear positive.

29. It has been an objective to maintain as high a discharge rate as possible, in keeping with the policy of the department which is to establish the domiciliary treatment of leprosy, using the hospital only for cases which react, for cases requiring surgical reconstruction and rehabilitation and for the diminishing number of grossly deformed chronic cases who are unable to fend for themselves.

30. The following table shows the racial classification of patients in hospital at the end of 1963, new admissions during 1963, and discharges during the year:—

Race	*Patients in hospital on 31.12.63*	*Admissions in 1963*	*Discharges in 1963*
Sea Dayak (Iban)	79	16	32
Land Dayak (Bidayuh)	14	3	3
Kayan Group (Kayan-Kenyah) ...	15	2	4
Other Sarawak Natives	1	—	—
Chinese	150	19	14
Malay—including Muslim Melanaus	53	8	6
Melanau	3	—	1
N.B. (N.M.N.)	18	3	4
Indonesian	21	6	1
Other	—	—	—
Total ...	354	57	65

31. The age-group of patients admitted and discharged are shown in the following table:—

Age Group	*Admissions*		*Discharges*	
	1962	*1963*	*1962*	*1963*
5 — 10 years	3	2	—	—
10 — 20 years	9	7	7	2
20 — 30 years	26	14	14	17
30 — 40 years	15	11	12	11
40 — 50 years	16	9	24	10
50 — 60 years	9	7	15	12
60 — 70 years	8	7	8	12
Total ...	87	57	82	65

32. With the services of a Physiotherapist available for the first time in the history of this hospital it was possible during 1963 to do some reconstructive surgery, in addition to the usual amputations and bone excisions that an institution such as this requires. A total of forty-three major and twenty-one minor operations were done, including fourteen tendon graft and transplant operations.

III. STATIC AND TRAVELLING DISPENSARIES

33. Returns of new patients attending static and travelling dispensaries during the year, and admissions to rest-beds in the static dispensaries are shown below. There was a marked increase in the attendance at the dispensaries during the year.

(a) Static Dispensary

34.

	No. of Restbeds	*New Patients*		*Admissions*	
		1962	*1963*	*1962*	*1963*
First Division					
1. Bau Dispensary	4	18,438	22,171	48	64
2. Lundu Dispensary	4	14,307	16,709	151	98
3. Serian Dispensary	5	22,291	21,585	57	48
4. Tebakang Dispensary	4	8,481	9,420	55	53
5. Nonok Dispensary	3	4,761	6,296	15	17
6. Simunjan Dispensary	5	10,832	12,399	35	104
Second Division					
7. Lubok Antu Dispensary	4	4,341	5,877	56	64
8. Engkilili Dispensary	5	13,658	13,953	127	84
9. Lingga Dispensary	7	8,337	9,467	75	49
10. Sebuyau Dispensary	7	6,511	7,575	87	190
11. Betong Dispensary	15	8,764	11,219	273	356
12. Spaoh Dispensary	8	5,312	7,208	232	192
13. Debak Dispensary	0	5,611	6,462	127	142
14. Saratok Dispensary	6	13,633	16,266	352	375
15. Kabong Dispensary	10	4,080	2,885	27	26
16. *Pusa Dispensary	6	—	2,045	—	10
Third Division					
17. Binatang Dispensary	12	14,986	13,866	72	60
18. Matu Dispensary	6	4,811	6,661	—	11
19. Dalat Dispensary	6	6,986	10,092	57	94
20. Mukah Dispensary	8	7,303	7,904	99	127
21. Balingian Dispensary	6	3,561	4,327	133	92
22. Kanowit Dispensary	10	7,689	12,203	166	276
23. Julau Dispensary	14	12,326	11,173	377	241
24. Song Dispensary	8	10,865	13,865	318	250
25. Kapit Dispensary	4	17,785	20,206	55	45
26. Belaga Dispensary	8	6,566	10,813	99	135
27. *Daro Dispensary	6	—	3,809	—	45
Fourth Division					
28. Marudi Dispensary	10	10,251	15,626	247	459
29. Bintulu Dispensary	14	10,457	16,259	346	375
30. *Bekenu Dispensary	10	—	5,792	—	101
Fifth Division					
31. Lawas Dispensary	10	8,384	10,621	75	91
32. Sundar Dispensary	4	658	3,817	26	87
Totals ...		271,984	338,571	3,787	4,361

* These dispensaries were opened during this year.

(b) Travelling Dispensaries

35.

	Base	No. of Patients Treated 1962	No. of Patients Treated 1963
First Division			
Travelling Dispensary No. 2	Kuching	8,792	9,382
Road Dispensary	Kuching	20,098	21,505
Second Division			
Nil	—	—	—
Third Division			
Travelling Dispensary No. 7	Sarikei	11,220	11,520
Travelling Dispensary No. 8	Kanowit	4,496	8,924
Travelling Dispensary No. 9	Kapit	6,190	8,417
Travelling Dispensary No. 17	Belaga	1,427	2,920
Fourth Division			
Travelling Dispensary No. 11	Tatau	3,980	5,693
Travelling Dispensary No. 12	Bintulu	2,683	6,477
*Travelling Dispensary No. 13	Niah	6,349	5,792
Travelling Dispensary No. 14	Marudi	6,725	4,942
Fourth Division			
Travelling Dispensary No. 16	Limbang	2,583	4,265
	Total	74,543	89,837

IV. DENTAL SECTION STATISTICS

36. The total attendances at all the dental clinics were as follows:—

	1961	1962	1963
Kuching	33,022	34,347	36,239
Sibu	18,232	12,945	13,433
Miri	5,177	2,663	11,333
Simanggang	—	448	387

37. An analysis of the service provided is shown below:—

	Kuching	Sibu	Miri	Simanggang	Total
Dental Extractions	35,488	12,051	17,970	385	65,894
Fillings	9,757	3,914	3,628	27	17,326
Dentures	661	260	167	—	1,338
Repair of Dentures	178	59	13	—	
Pediodontal Treatment	1,557	545	729	15	2,846
X-rays	358	—	105	—	463
Application of stannous fluoride ...	471	—	—	—	471
Orthodontic Appliances	2	1	—	—	3
Gold inlays and crown bridges	7	5	—	—	12
Metal and Acrylic Splints	7	—	—	—	7
Post Crowns	2	—	—	—	2
Other Treatments	1,399	866	1,328	—	3,593
Vagina Moulds	—	3	—	—	3
Obturators	—	1	—	—	1

---

* This travelling dispensary was formerly at Bekenu and was moved to Niah after the Bekenu static dispensary was opened in 1963.

V. PATHOLOGICAL LABORATORY SERVICES

38. The following table gives a summary of the examinations carried out at each individual laboratory during 1963:—

Return of Routine Laboratory Investigations, 1963

INVESTIGATIONS	*CL*	*HC*	*SM*	*RCBM*	*SG*	*SIBU*	*SKEI*	*MIRI*	*TOTAL*
Bacteriology:									
Haemoglobin	9,428	5,886	588	386	6,073	13,819	975	5,040	42,195
Cell counts	8,470	2,685	142	358	3,295	9,863	1,646	4,193	30,652
Other tests	1,826	142	598	11	1,235	1,329	31	677	5,849
Blood Transfusion:									
Blood grouping	3,304	—	—	—	923	7,207	543	1,047	13,024
Compatibility tests	1,769	—	—	—	142	1,382	73	401	3,767
Serology:									
Kahn tests	6,756	—	—	—	1,239	6,276	225	1,383	15,879
Widal tests	469	—	—	—	102	443	90	197	1,301
Other tests	428	—	—	—	39	242	18	5	732
Chemical Pathology:									
Urine tests	5,058	13,443	604	223	3,141	9,409	1,953	6,107	39,938
Blood tests	6,070	—	—	—	279	2,561	92	1,423	10,425
Other tests	1,114	57	49	7	242	881	22	365	2,737
Parasitology:									
Blood smears	933	3,718	514	31	5,721	876	280	895	12,968
Faeces	3,970	12,566	636	103	3,438	13,672	1,116	4,067	39,568
Bacteriology:									
Tuberculosis sputa	2,953	8,435	254	119	2,835	20,402	425	3,337	38,760
Swabs	2,861	309	—	—	974	2,443	249	984	7,820
Faeces	2,654	—	—	—	437	713	46	566	4,416
Urine	1,409	—	—	—	45	293	4	213	1,964
Blood cultures	324	—	—	—	95	313	1	98	831
Scrapings for leprosy	17	102	—	25,300	16	91	21	32	25,579
Other tests	3,862	—	—	—	201	1,542	40	456	6,101
Total	63,675	47,343	3,385	26,538	30,472	93,757	7,850	31,486	304,506

	CL	*HC*	*SM*	*RCBM*	*SG*	*SIBU*	*SKEI*	*MIRI*	*TOTAL*
Totals for 1962 were	58,397	48,197	3,592	19,648	28,736	69,723	—	33,944	262,237

Legend: CL = Central Laboratory HC = Health Centre SM = Sarawak Mental Hospital
RCBM = Rajah Charles Brooke Memorial Hospital SG = Simanggang Hospital
SKEI = Sarikei.

39. The Central Laboratory in Kuching is responsible for the preparation of nearly all culture media, reagents, stains and acid-citrate-dextrose solution for blood collection which are used in the various laboratories and hospitals in the country. This ensures proper standardisation and checking of the reagents and reduces the burden of preparation on the divisional laboratory staff to a very minimum, leaving them more time to devote to bench work. Crystalloid solutions and water for injection are also prepared in the Central Laboratory. The Central Laboratory also runs a Sterile Syringe Service which serves all the wards of the Kuching General Hospital. The work of the preparation room is summarised as follows:—

Acid-Citrate-Dextrose for blood collection (120 ml. bottles)	2,801 bottles
Water for Injetcion	25,864 vials
Crystalloid Solutions, 500 ml.	7,815 bottles
200 ml.	457 bottles
Blood Collecting Sets for sereology tests	3,688
Culture media	862 litres
Syringes cleaned, assembled and sterilized	101,485
Chemical Reagents prepared	482 litres

Stains and reagents prepared ready for use—

Haematology	20 litres
Bacteriology	255 litres
Histo-pathology	260 litres

40. The Central Laboratory is a reference laboratory for problems arising in peripheral laboratories, checks and identifies in detail all intestinal pathogens and performs many tests which it is not possible or feasible to set up in the other laboratories. Increasing use is being made of these facilities offered in the Central Laboratory and this work which is not recorded in the principal table above is summarised here: —

	Kuching	*Simanggang*	*Sibu*	*Miri*	*Totals*
Haematology:					
Bone Marrow	39	4	28	—	71
Abnormal haemoglobins ...	23	2	4	2	31
Transfusion reactions	3	—	—	—	3
Serology:					
Wassermann and other tests ...	418	48	287	32	772
Paul-Bunnell	14	1	2	3	20
Rose-Waaler	29	9	4	1	43
*S.E.L. for leptospirosis ...	15	17	8	2	42
*Anti-streptolysin Titre	81	1	17	6	105
*Pregnancy Tests	10	—	1	2	13
Brucella Agglutination	3	—	1	—	6
Bacteriology:					
Salmonellae (food poisoning) ..	34	5	8	4	51
Shigellae **	164	46	38	31	279
Ent path. E.Coli **	20	11	15	6	52
V. Cholerae El Tor	63	37	—	—	100

41. The Blood Transfusion Service continues to expand. The record of transfusions is as follows (figures in parenthesis are for 1962, given for comparison): —

	Recipients		*Donors*	
Kuching	875	(846)	949	(1,000)
Simanggang ...	126	(68)	127	(68)
Sibu	832	(786)	869	(794)
Sarikei	38	(—)	38	(—)
Miri	230	(189)	250	(196)
Total ...	2,101	(1,889)	2,233	(2,058)

42. There has been an increase of 25 per cent over 1962 in the number of specimens submitted for histo-pathological investigation (902 against 720 in 1962), and thirty-seven of these were referred to the Consultant Pathologist at the Institute for Medical Research in Kuala Lumpur for a second opinion. There has

---

* These tests were introduced only in the last quarter of the year.

also been an increase in the number of specimens submitted for exfoliative cytology examination, and this branch of the work is steadily increasing. Very few post-mortem examinations are performed and the number of histological examinations of tissues removed at autopsy is, therefore, quite small. Details of the work of the histo-pathological section follow (figures for 1962 are included in parenthesis for comparison): —

(a) *Surgical Pathology:*

Hospital	*No. of Specimens*
Kuching General	328 (319)
Health Centre, Kuching	19 (38)
Simanggang	45 (21)
Lau King Howe, Sibu	338 (249)
Sarikei	7 (—)
Miri	94 (55)
Limbang	4 (8)
Rajah Charles Brooke Memorial ...	2 (—)
Christ Hospital, Kapit	61 (25)
Private practitioners	4 (5)
	902 (720)

(b) *Morbid Anatomy:*

Post-mortem dissections (Kuching only) (Hospital 33(35), Medico-legal 16(11))	49 (46)
Post-mortem histology:	
Kuching	214 (149)
Simanggang	1 (2)
Sibu	13 (—)
Miri	4 (4)
Christ Hospital, Kapit	8 (3)
	240 (158)

(c) *Exfoliative Cytology:*

Kuching	39 (14)
Health Centre, Kuching	2 (—)
Lau King Howe, Sibu	30 (—)
Christ Hospital, Kapit	1 (—)
	72 (14)

VI. MATERNAL AND CHILD HEALTH SERVICES

43. The following figures give some indication of the work done at three of the main Maternal and Child Health Services:—

			Child Health Attendances	*Ante-natal Attendances*	*Post-natal Attendances*	*Total Attendances*
Kuching	1959	...	6,411	28,542	4,531	97,094
	1960	...	65,735	33,818	5,127	104,180
	1961	...	71,604	37,699	6,019	115,322
	1962	...	83,042	50,877	7,920	141,849
	1963	...	72,639	44,361	7,618	124,618
Sibu	1959	...	36,509	14,239	2,964	53,712
	1960	...	40,001	16,072	3,660	56,073
	1961	...	50,787	15,516	5,648	71,951
	1962	...	40,298	17,802	5,653	63,753
	1963	...	54,517	22,311	7,011	83,839
Sarikei	1959	...	1,752	2,407	190	4,349
	1960	...	3,586	4,409	510	8,505
	1961	...	8,025	4,565	578	13,168
	1962	...	7,541	6,530	688	14,759
	1963	...	5,084	6,260	519	11,863

MALARIA ERADICATION PROJECT

Introduction

44. The climatic conditions contributing to the presence of Malaria in Sarawak are to be found in the opening chapter Part I of this Report, under the heading background information.

45. There is no obvious seasonal incidence of Malaria and transmission can occur throughout the year. Prior to the commencement of the project it was known that the hilly areas were hyperendemic, while the low-lying plains and coastal areas, in the absence of nearby hills, were hypoendemic. This difference has been associated with the distribution of the main vector *A. leucosphyrus.*

46. Due to terrorist activities, mainly in the border areas of the State spraying operations have fallen behind schedule in some areas while surveillance measures have had to be curtailed. Naturally, this has had an adverse effect on the progress of the project in the areas so affected.

Surveillance Areas

47. The country is divided into areas where malaria eradication is in either the attack phase or the consolidation phase. Urban areas are considered to be non-malarious as a result of the disappearance of the vector Anophelines. The urban areas comprise the towns of Kuching, Sibu and Miri.

48. The attack and consolidation phase areas are such subdivided into a1 or a 2 and b1 and b2 areas respectively.

49. The a1 areas are those areas in the attack phase which lie along the border with Indonesian Kalimantan. They are constantly at risk by importation of infection from an uncontrolled reservoir and vector control measures must continue here until the neighbouring state begins its long promised project.

50. The a2 areas are those which, when transmission is interrupted, can pass into the consolidation and eventually the maintenance phase. They are therefore potential areas of eradication.

51. The b1 areas are former hyperendemic areas in which the interruption of transmission has been achieved, the b2 areas are former hypoendemic areas which have reached the same stage.

52. The attack phase areas are covered by the regular spraying of all dwellings and farm-huts twice a year. Those in the consolidation phase are not sprayed unless a case is detected, when focal spraying of the locality is undertaken and may be further extended, depending on the results of the investigation of the original case. The population covered by the attack, and consolidation phases, and urban areas is shown in Table 1.

Investigation of Cases

53. All cases occurring in consolidation phase areas are investigated as a matter of emergency, and training programmes have been carried out during the year to increase the numbers of investigators, and to improve the standard of investigation. The investigation comprises a blood survey in the area, an entomological survey, and a survey of the history of the case to determine as accurately as possible the origin of the infection. A similar investigation is carried out in attack phase areas also, if staff and time permit.

Detection of Cases

54. Active case detection is undertaken by men who are given an itinerary covering all the dwellings and houses in an area. These, they visit each month and collect blood films from all people, who have fever, from whatever cause, or who have had fever during the interval between visits. They also administer a suppressive dose of an anti-malarial drug to such cases pending the result of blood examination. In addition, they are given, with their itineraries, the names of those known cases of malaria whom they are to follow up. Since these cases have had radical treatment, they are not given suppressive treatment when their blood films are taken.

55. Passive case detection is the duty of all government hospitals, dispensaries and *ulu* dressers. In addition voluntary agencies such as private hospitals and clinics and home helps have been brought into this system of detection. They are provided with slides, after receiving the basic training necessary, and are encouraged to take films from all those who attend with fever, and to send the films as soon as possible, for microscopy.

56. With the extension of passive case detection to remote areas through the incorporation of home helps and *ulu* dressers, and with their rapidly increasing prestige, it is thought that passive case detection will in time largely replace active case detection, particularly in the b2 areas.

Other forms of Case Detection

57. Other forms of detection are undertaken through the medium of mass blood surveys, and epidemiological and special surveys. Included in this group are all slides taken from non-fever cases.

Surveillance Results

58. The results of the work of the surveillance units are shown in Table 2, and a breakdown of the results for the various phases is shown in Tables 3, 4 and 5.

59. It will be observed that the Annual Parasite Incidence is high in the consolidation phase areas of the Second and Third Divisions. This is due to the appearance of several foci of transmission there during the year, and active remedial measures have been carried out in each case.

60. The origin of infections in those cases which could be investigated is shown in Table 6. This table shows clearly the threat of Indonesian visitors to the First and Second Divisions, since the majority of cases imported from abroad come from across the Kalimantan border.

61. The species distribution of parasites is shown in Table 7. The high proportion of *P. falciparum* to other species in the First and Second Divisions is due to the close proximity of relatively large centres of population to Kalimantan, where its incidence is known to be high and where an eradication programme has yet to be implemented.

Spraying Results

62. The population, number of households, and the areas in the attack and consolidation phases for the year 1959-1963 are shown in Table 8, which indicates the progress of the project during this period. During 1964 some of the consolidation b2 areas will be ready to pass into the maintenance phase having had no indigenous malaria for the preceding three years. The number of structures covered by regular spraying in the attack phase areas and the quantity of insecticide used is shown in Table 9.

TABLE 1

Distribution of Population in Phases

Division	*Attack Phase*	*Consolidation Phase*	*Urban Areas*	*Total*
First ...	69,075	119,523	78,422	267,020
Second ...	31,015	86,820	—	117,835
Third ...	35,408	214,277	31,908	281,593
Fourth ...	16,480	73,241	14,378	104,099
Fifth ...	12,193	19,037	—	31,230
Total ...	164,171	512,898	124,708	801,777

Allowance has been made for an annual population increase of 2.5 per cent over the census figures of 1960.

TABLE 2

Surveillance Results

	Division I	*Division II*	*Division III*	*Division IV*	*Division V*	*Total*
PCD						
Slides taken ...	18,575	37,119	11,632	4,873	952	73,151
Positive	190	148	88	18	3	447
ACD						
Slides taken ...	9,030	6,865	20,750	16,223	6,205	59,073
Positive	77	22	60	20	6	185
Others						
Slides taken ...	60,790	40,670	44,883	20,772	7,772	174,907
Positive	243	36	110	75	8	472
Total						
Slides taken ...	88,395	84,654	77,265	41,868	14,929	307,131
Positive	510	206	258	113	17	1,104
SPR %	0.58	0.24	0.33	0.27	0.11	0.36
ABER %	33.1	71.8	27.4	40.2	47.8	38.3
API 0/00	1.91	1.75	0.92	1.09	0.54	1.25

SPR = Slide Positivity Rate.
ABER = Annual Blood Examination Rate.
API = Annual Parasite Incidence per 1,000 population.

TABLE 3

CONSOLIDATION PHASE RESULTS

Division	*Films*	*Positive*	*SPR %*	*ABER %*	*API 0/00*
First	40,301	61	0.15	3.37	0.51
Second ...	64,981	81	0.12	74.8	0.93
Third	64,255	161	0.25	30.0	0.75
Fourth ...	30,256	18	0.06	41.3	0.25
Fifth	6,862	1	0.01	36.0	0.05
Total	206,655	322	0.16	40.3	0.63

TABLE 4

ATTACK PHASE RESULTS

Division	*Films*	*Positive*	*SPR %*	*ABER %*	*API 0/00*
First	43,051	422	0.98	62.3	6.10
Second ...	19,673	125	0.64	63.4	4.03
Third	12,631	90	0.71	35.7	2.54
Fourth ...	11,060	92	0.83	67.1	5.58
Fifth	8,067	16	0.20	66.2	1.31
Total	94,482	745	0.79	57.6	4.54

TABLE 5

RESULTS IN URBAN AREAS

Division	*Films*	*Positive*	*SPR %*	*ABER %*	*API 0/00*
First	5,043	27	0.54	6.4	0.34
Second ...	—	—	—	—	—
Third	379	7	1.85	1.2	0.22
Fourth ...	552	3	0.54	3.8	0.21
Fifth	—	—	—	—	—
Total	5,974	37	0.62	4.8	0.3

TABLE 6

ORIGIN OF INFECTION IN CASES INVESTIGATED*

Division	*Indigenous cases*	*Relapsed cases*	*Imported from abroad*	*Imported from attack phase areas*	*Imported from consolidation phase areas*	*Induced cases*	*Introduced cases*	*Total*
First ...	245	51	80	34	1	0	14	425
Second ...	55	56	33	33	0	0	2	179
Third ...	156	31	6	10	5	0	1	209
Fourth ...	43	45	7	6	2	0	1	104
Fifth ...	10	0	4	1	0	0	0	15
Total ...	509	183	130	84	8	0	18	932

* A total of 172 cases out of the 1,104 cases detected in 1963 were not investigated.

TABLE 7

DISTRIBUTION OF PARASITE SPECIES

Division	*P. vivax*	*P. falciparum*	*P. malariae*	MIXED INFECTION			*Total*
				vivax/ falciparum	*vivax/ malariae*	*malariae/ falciparum*	
First ...	318	168	18	4	1	1	510
Second ...	130	56	18	2	0	0	206
Third ...	209	2	46	1	0	0	258
Fourth ...	44	4	65	0	0	0	113
Fifth ...	5	0	11	0	1	0	17
Total ...	706	230	158	7	2	1	1,104

TABLE 8

POPULATION, HOUSEHOLDS, AND AREA

Date	CONSOLIDATION PHASE			ATTACK PHASE		
	Population	*Households*	*Area in Sq. Km.*	*Population*	*Households*	*Area in Sq. Km.*
1959 ...	29,919	4,713	1,761	609,735	110,861	123,360
1960 ...	60,352	10,973	13,263	590,218	107,312	111,858
1961 ...	478,659	87,029	70,299	188,485	34,270	54,822
1962 ...	505,268	91,867	71,825	155,287	28,234	53,296
1963 ...	512,898	93,254	72,353	164,171	29,849	52,768

TABLE 9

SPRAYING STATISTICS

SPRAYED STRUCTURES		STRUCTURES UNSPRAYED BECAUSE		*Insecticide Used—Kilos*
Houses	*Farm-huts*	*Refused*	*Other Reasons*	
52,070	16,465	219	1,219	DDT 75% w.d.p. 17,190.2 Kilograms

TUBERCULOSIS CONTROL PROJECT

I. GENERAL

63. This project has already been referred to in general terms in Part I, Section VIII—Epidemic and Endemic Diseases.

II. STATISTICS

64. The project operated in the urban and peri-urban areas of Kuching and Sibu only during 1963, and the figures below refer to these areas only. Statistics available for 1961 and 1962 have been included for the sake of comparison.

TUBERCULOSIS STATISTICS — 1961 TO 1963

1. Population under control

	1961	*1962*	*1963*
(*running total*)	24,228	74,324	130,835

2. Reservoir of infection

(1) Number on chemotherapy on December 31st	2,131	3,994	3,393
(2) Number of new cases diagnosed during the year	805	1,211	814
(3) Number whose treatment was completed during the year	279	380	1,087

3. Tuberculin testing

(1) *First tests*

(i) Total number of tests carried out during the year	12,277	18,527	28,892
(ii) Total number of reactions under 10 mm. in diameter (negative reactors) ...	5,754	10,562	21,068
(iii) Total number of positive reactors ...	6,483	7,571	7,606
(iv) Total number not read for various reasons	40	394	218

(2) *Retests*

(i) Total number of tests carried out during the year	—	—	4,232
(ii) Total number of reactions under 10 mm. in diameter (negative reactors) ...	—	—	1,938
(iii) Total number of positive reactors ...	—	—	2,294 [illegible]
(iv) Total number not read for various reasons	—	—	—

4. B.C.G. Vaccination

(1) Total number vaccinated for the first time	11,826	15,906	29,790
(2) Total number revaccinated	—	—	1,896

5. X-ray examination

	1961	*1962*	*1963*
(1) Total number of miniature exposures ...	15,359	43,009	32,398
(2) Total number of large films used	3,250	5,137	5,753
(3) Total number of persons X-rayed for the first time	12,402	34,910	26,721

6. Microscopy

(1) Total number of sputa examined (including repeats)	10,499	19,135	28,938
(2) Total number of positive sputa found (including repeats)	460	1,203	1,603

7. House-to-House survey

(1) Number of houses visited	80	3,445	3,904
(2) Population of houses visited	881	36,070	31,909
(3) Number of houses visited to trace contacts	288	117	93
(4) Number of contacts traced	—	1,116	595
(5) Number of contacts found positive	—	50	10

65. The above figures require some explanation, particularly those which differ from the figures given in the Annual Report for 1962.

1. Population under Control

The figures are now calculated on the basis of persons actually dealt with by staff of the project. In previous years the figures represented the approximate population of those areas already covered by or being covered by the project, regardless of the extent of coverage obtained. The new figures, however, represent a running total of persons actually seen by the project staff since the inception of the project.

The calculation for each year is obtained by first adding together the total number of persons falling into each of the following groups:—

(a) All positive reactors (first test).

(b) All those given B.C.G. (first vaccination).

(c) All those undergoing X-ray examination for the first time, less any positive reactors examined. The final figure is then obtained by adding the total for the previous year.

2. Reservoir of infection

The figures for those on chemotherapy now include all cases diagnosed prior to the commencement of the project in an area, and actually under treatment. These old cases are automatically taken over as part of the activities of the project, when operations are extended to any new area. The figures shown previously in the Annual Report for 1962 referred to the Kuching area only, and these are now amended to include the figures for Sibu.

3. Tuberculin testing

This has been subdivided into first test and retests. During 1963, retests were carried out for the first time in a certain number of cases to assess the conversion rate after BCG vaccination.

There is a marked difference in the figures for negative reactors expressed as a percentage of the total number of first tests carried out in each of the three years. This is due to a change in policy in mid-1962, when it was decided, in the light of experience already gained, that any reaction under 10 mm. in diameter was unlikely to be due to human infection, and so should be read as a negative. Prior to this only those reactions under 5 mm. in diameter were considered negative.

It should be noted that the 1961 figure for positive reactors, as given in previous annual reports, has been corrected in the present report following a closer examination of records available. The same applies to the 1962 figure for the total number of tuberculin tests carried out.

4. BCG vaccination

These figures include the vaccination of all new-born infants in the areas covered by the project. The totals shown previously, in the Annual Report for 1962, have been amended accordingly.

5. X-ray examination

The reduction in numbers during 1963 as compared with 1962 is due to the tailing off of project activities in the Kuching area towards the end of 1963, while in Sibu the project was still operating mainly in the schools.

Again, it should be noted that the 1961 and 1962 figures, as given in previous annual reports, have been amended following a closer examination of records available.

6. Microscopy

The figures do not include examinations carried out in the other laboratories which are not directly connected with the project, including many positive results. Thus positive smears for new cases diagnosed in an area, prior to the commencement of acivities there by the project staff, are not included. This explains the apparent difference in figures betwen 2 (2) and 6 (2) in the above table.

7. House-to-House survey

The figures relate mainly to visits made in the urban and peri-urban areas of Kuching, since the project in Sibu was still operating in schools there during 1963.

III. MATTERS OF TECHNICAL INTEREST

65. With the agreement of the Colombo Plan Consultant on Tuberculosis, the interpretation of a “negative” reaction to the Tuberculin Test (10 T.U.) was changed from under 5 mm. to under 10 mm. in diameter in mid-1962. As a result the proportion of positive reactors is not comparable between the years 1961 to 1963.

66. The figures for retests, to assess the conversion rate in those vaccinated with B.C.G., are liable to convey a somewhat dismal picture, as the rate appears to be only 54.2 per cent. However, it must be remembered that the assessment has been based on the interpretation of what is considered to be a positive reaction. Only those 10 mm. and over in diameter have been classified as positive reactions.

67. Unfortunately detailed measurements of the various sizes of reaction obtained in all the retests are not immediately available for further consideration, except for one group of children from schools in the Kuching Municipal Council area. The details for this group of 1,521 retests are given below.

TUBERCULIN TESTING (RETESTS) IN 1,521 CHILDREN FROM 25 SCHOOLS IN THE KUCHING MUNICIPAL COUNCIL AREA

Size of reaction in mm.	*Frequency*	*Percentage*
0	202	13.2
1-2	46	3.0
3-4	172	11.3
5-6	157	10.3
7-8	87	5.7
9-10	169	11.1
11-12	213	14.0
13-14	176	11.6
15-16	145	9.5
17-18	52	3.4
19-20	70	4.6
21-22	17	1.1
23-24	8	0.5
25-26	6	0.4
27-28	1	0.06
29-30	0	0

The mean size of reaction is 9.1 mm. The number of reactions 10 mm. and over in diameter works out to 53.8 per cent.

RURAL HEALTH IMPROVEMENT SCHEME

I General

68. This scheme has already been referred to in general terms in Part I, Section VIII—Epidemic and Endemic Diseases.

69. At the end of the year there were six trained Rural Health Supervisors in the First Division. Five of them were posted to areas allocated to them in the Bau District on 1st October, 1963 and the sixth acts as a leave relief and assists with training at the Training School at Tarat. The area, covered and yet to be covered in the Bau District, is circular in shape, and is divided by lines radiating from Bau into six areas containing from *six to ten* kampongs each. Five of these areas are manned by rural health supervisors based at kampong Kopid, (6) Seromah (6), Krokong Gunong (8), Sebuloh (6) and Sudoh (8). The sixth will be based at Kandis (4) to complete the area remaining. The numbers in brackets indicate the number of kampongs in each area.

70. The duties of the rural health supervisors include frequent visits to kampongs, where they set up Kampong Committees for the control of sanitation and where they undertake health education on such subjects as latrines, water supplies, sanitary pig and poultry husbandry, and refuse disposal. They suggest and discuss improvements suitable to the economics and geography of the kampong concerned. It is gratifying to note that they have been made welcome and have already effected many improvements. Medically, they are equipped with a combination of the Home Help and First Aid Kits and all act as malaria passive case detection units. They liaise with the Peace Corps, Agricultural Extension Workers, Home Helps, and Midwives, and with the Health Inspector of the Local Council in their area. They are in constant contact with the Hospital Assistant at Bau Dispensary.

Training

71. In December 1963, twelve trainees were recruited, nine from Serian District and three from redundant staff of the Malaria Eradication Project. They are accommodated at the Training School at Tarat, which was completed during the year. The Officer-in-Charge Training, who is responsible to the Divisional Medical Officer, First Division, supervises the training and arranges the course of lectures and also practical training in the field.

72. Areas and bases had been tentatively selected for the new batch, in consultation with the District Officer, Serian, in a development area in the Serian District, where there are Agricultural Extension Teams already. When trained, the twelve health supervisors will be posted to these areas.

Statistics

73. The attached list provides some details of the work achieved in each of the kampongs included in the scheme in the Bau District. In this connection it must be noted that the rural health supervisors were posted to the kampongs in the middle of the farming season, which is always a difficult time to arrange meetings, since most of the kampong population are away in the fields, and progress was therefore retarded to some extent.

RURAL HEALTH IMPROVEMENT SCHEME

SUMMARY OF ACTIVITIES IN THE BAU DISTRICT OF THE FIRST DIVISION

	No. of Latrines constructed	*Refusal Disposal*	*Drainage*	*Water Supply*	*Fencing of pigs*
(1) Kopid	7	Regular advice	Regular advice	Advised boiling	Yes
Merimbeh	—	— do —	— do —	— do —	No
Podam	—	— do —	— do —	— do —	No
Peninjau Baru	—	— do —	— do —	— do —	To some extent
Peninjau Lama	—	— do —	— do —	— do —	No
Pelaman Saga	—	— do —	— do —	— do —	No
(2) Seromah	1	— do —	— do —	Water Dam	No
Seropak	1	— do —	— do —	Advised boiling	No
Pelaman Skiat	3	— do —	— do —	— do —	No
Skio	5	— do —	— do —	— do —	No
Sogo	—	— do —	— do —	— do —	No
Segobang	—	— do —	— do —	— do —	No
Krokong Gunong	18	— do —	— do —	Water Dam	Yes
Batu Sepit	8	— do —	— do —	Advised boiling	Yes
Pelaman Kam	5	— do —	— do —	— do —	No
Suba Buan	4	— do —	— do —	— do —	No
Suba Bau	22	— do —	— do —	— do —	No
Pelaman Pisa	16	— do —	— do —	— do —	Yes
Krokong Chinese	6	— do —	— do —	— do —	Yes
Blimbin	7	— do —	— do —	— do —	No
(4) Sibulah	6	— do —	— do —	— do —	Yes
Grogo	—	— do —	— do —	— do —	No
Opar	—	— do —	— do —	— do —	No
Pelaman Sewa	—	— do —	— do —	— do —	No
Kampong Jugan	—	— do —	— do —	— do —	No
Tembawang	—	— do —	— do —	— do —	No
(5) Sudoh	2	— do —	— do —	— do —	No
ATAS	—	— do —	— do —	— do —	No
Tanjong	—	— do —	— do —	— do —	No
Duan	—	— do —	— do —	— do —	No
Tabong (Selalag)	—	— do —	— do —	— do —	No
Segong	—	— do —	— do —	— do —	No
Sagong	—	— do —	— do —	— do —	No
Tabong (Tabun)	—	— do —	— do —	— do —	No

MORBIDITY RETURN FOR IN-PATIENTS TREATED IN THE KUCHING, SIMANGGANG, SIBU, SARIKEI AND MIRI HOSPITALS

International Classification of Diseases

(Intermediate List)

			Cases
A	1	Tuberculosis of respiratory system	1,187
A	2	Tuberculosis of meninges and central nervous system	32
A	3	Tuberculosis of intestines, peritoneum, and mesenteric glands	19
A	4	Tuberculosis of bones and joints	17
A	5	Tuberculosis, all other forms	87
A	6	Congenital syphilis	2
A	7	Early syphilis	2
A	8	Tabes dorsalis	2
A	9	General paralysis of the insane	6
A	10	All other syphilis	9
A	11	Gonoccoccal infection	22
A	12	Typhoid fever	217
A	13	Paratyphoid fever and other Salmonella infections	9
A	14	Cholera	64
A	15	Brucellosis (undulant fever)	—
A	16	Dysentery, all forms	785
A	17	Scarlet fever	1
A	18	Streptococcal sore throat	37
A	19	Erysipelas	21
A	20	Septicaemia and pyaemia	26
A	21	Diphtheria	217
A	22	Whooping cough	109
A	23	Meningococcal infections	15
A	24	Plague	—
A	25	Leprosy	21
A	26	Tetanus	24
A	27	Anthrax	—
A	28	Acute poliomyelitis	2
A	29	Acute infectious encephalitis	62
A	30	Late effects of acute poliomyelitis and acute infectious encephalitis	22
A	31	Smallpox	—
A	32	Measles	50
A	33	Yellow fever	—
A	34	Infectious hepatitis	304
A	35	Rabies	—

		Cases
A 36	Typhus and other rickettsial diseases	40
A 37	Malaria	148
A 38	Schistosomiasis	—
A 39	Hydatid disease	—
A 40	Filariasis	65
A 41	Ankylostomiasis	816
A 42	Other diseases due to helminths	260
A 43	All other diseases classified as infective and parasitic	263
A 44	Malignant neoplasm of buccal cavity and pharynx	35
A 45	Malignant neoplasm of oesphagus	11
A 46	Malignant neoplasm of stomach	56
A 47	Malignant neoplasm of intestine, except rectum	6
A 48	Malignant neoplasm of rectum	21
A 49	Malignant neoplasm of larynx	1
A 50	Malignant neoplasm of trachea, bronchus and lung, not specified as secondary	43
A 51	Malignant neoplasm of breast	18
A 52	Malignant neoplasm of cervix uteri	52
A 53	Malignant neoplasm of other and unspecified parts of uterus	11
A 54	Malignant neoplasm of prostate	2
A 55	Malignant neoplasm of skin	7
A 56	Malignant neoplasm of bone and connective tissue	24
A 57	Malignant neoplasm of all other and unspecified sites	91
A 58	Leukaemia and aleukaemia	43
A 59	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic systems	30
A 60	Benign neoplasm and neoplasms of unspecified nature	185
A 61	Non-toxic goitre	63
A 62	Thyrotoxicosis with or without goitre	22
A 63	Diabetes mellitus	137
A 64	Avitaminosis and other deficiency state	256
A 65	Anaemias	331
A 66	Allergic disorders; all other endocrine, metabolic, and blood diseases	445
A 67	Psychoses	184
A 68	Psychoneuroses and disorders of personality	95
A 69	Mental deficiency	31
A 70	Vascular lesions affecting central nervous system	194
A 71	Non-meningococcal meningitis	4
A 72	Multiple sclerosis	—

		Cases
A 73	Epilepsy	58
A 74	Inflammatory diseases of eye	290
A 75	Cataract	131
A 76	Glaucoma	146
A 77	Otitis media and mastoiditis	69
A 78	All other diseases of the nervous system and sense organs	107
A 79	Rheumatic fever	99
A 80	Chronic rheumatic heart disease	62
A 81	Arteriosclerotic and degenerative heart disease	151
A 82	Other diseases of heart	153
A 83	Hypertension with heart disease	216
A 84	Hypertension without mention of heart	111
A 85	Diseases of arteries	89
A 86	Other diseases of circulatory system	72
A 87	Acute upper respiratory infections	400
A 88	Influenza	59
A 89	Lobar pneumonia	103
A 90	Bronchopneumonia	534
A 91	Primary atypical, other, and unspecified pneumonia	57
A 92	Acute bronchitis	427
A 93	Bronchitis, chronic and unqualified	294
A 94	Hypertrophy of tonsils and adenoids	127
A 95	Empyema and abscess of lung	43
A 96	Pleurisy	18
A 97	All other respiratory diseases	229
A 98	Diseases of teeth and supporting structures	53
A 99	Ulcer of stomach	170
A 100	Ulcer of duodenum	217
A 101	Gastritis and duodenitis	193
A 102	Appendicitis	340
A 103	Intestinal obstruction and hernia	254
A 104	Gastro-enteritis and colitis, except diarrhoea of the newborn	925
A 105	Cirrhosis of liver	76
A 106	Cholelithiasis and cholecystitis	94
A 107	Other diseases of digestive system	239
A 108	Acute nephritis	146
A 109	Chronic, other, and unspecified nephritis	130
A 110	Infections of kidney	181
A 111	Calculi of urinary system	129

		Cases
A 112	Hyperplasia of prostate	15
A 113	Diseases of breast	31
A 114	Other diseases of genito-urinary system	878
A 115	Sepsis of pregnancy, childbirth, and the puerperium	52
A 116	Toxaemias of pregnancy and the puerperium	434
A 117	Haemorrhage of pregnancy and childbirth	351
A 118	Abortion without sepsis or toxaemia	960
A 119	Abortion with sepsis	116
A 120	Other complications of pregnancy, childbirth, and the puerperium	746
A 121	Infections of skin and subcutaneous tissue	1,265
A 122	Arthritis and spondylitis	121
A 123	Muscular rheumatism and rheumatism unspecified	34
A 124	Osteomyelitis and periostitis	69
A 125	Ankylosis and acquired musculoskeletal deformities	10
A 126	All other diseases of skin and musculoskeletal system	58
A 127	Spina bifida and meningocele	2
A 128	Congenital malformations of circulatory system	13
A 129	All other congenital malformations	47
A 130	Birth injuries	3
A 131	Postnatal asphyxia and atelectasis	2
A 132	Infections of the newborn	3
A 133	Haemolytic disease of the newborn	8
A 134	All other defined diseases of early infancy	363
A 135	Ill-defined diseases peculiar to early infancy, and immaturity, unqualified	27
A 136	Senility without mention of psychosis	3
A 137	Ill-defined and unknown causes or morbidity and mortality	897
AE138	Motor vehicle accidents	191
AE139	Other transport accidents	16
AE140	Accidental poisoning	41
AE141	Accidental falls	328
AE142	Accident caused by machinery	52
AE143	Accidents caused by fire and explosion of combustible material	29
AE144	Accidents caused by hot substance, corrosive liquid, steam, and radiation	89
AE145	Accidents caused by firearms	57
AE146	Accidental drowning and submersion	14
AE147	All other accidental causes	1,139

		Cases
AE148	Suicide and self-inflicted injury	6
AE149	Homicide and injury purposely inflicted by other persons (not in war)	64
AE150	Injury resulting from operations of war	4
AN138	Fracture of skull	42
AN139	Fracture of spine and trunk	55
AN140	Fracture of limbs	480
AN141	Dislocation without fracture	54
AN142	Sprains and strains of joints and adjacent muscle	45
AN143	Head injury (excluding fracture)	139
AN144	Internal injury of chest, abdoment, and pelvis	31
AN145	Laceration and open wounds	835
AN146	Superfiical injury, contusion and crushing with intact skin surface	128
AN147	Effects of foreign body entering through orifice	53
AN148	Burns	182
AN149	Effects of poisons	63
AN150	All other unspecified effects of external causes	30
	Total	25,228

OUT-PATIENT MORBIDITY RETURN 1963

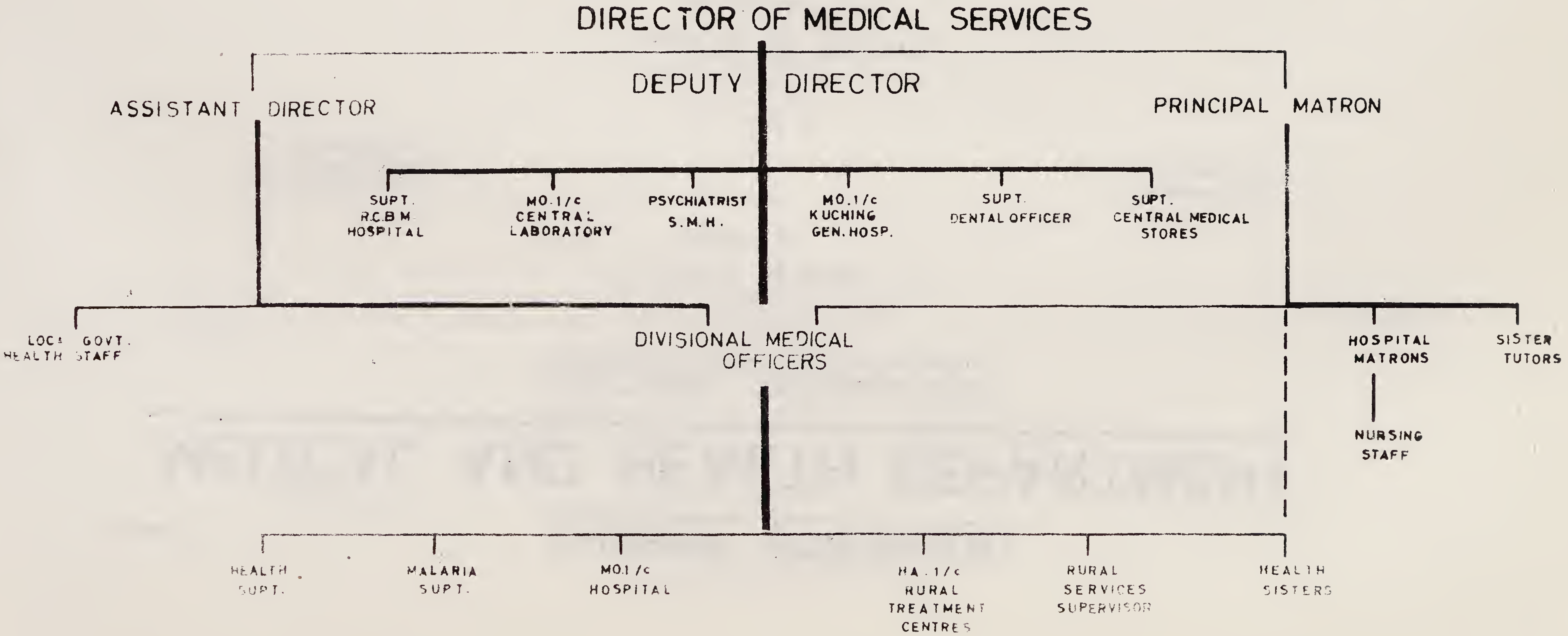
Inetrnational List Classification Number	*Disease or Condition*	*No. of cases treated in Government Hospitals and Dispensaries*	*No. of cases treated in Non-Government Dispensaries*	*Total*
001-008	Tuberculosis of respiratory system	1,319	304	1,623
010-019	Tuberculosis—all other forms	326	46	372
020-029	Syphillis	77	17	94
030-035	Gonorhoea	649	39	688
040-042	Typhoid and paratyphoid fevers and other Salmonella infections	175	93	268
045-048	Dysentery, all forms	5,163	919	6,082
055	Diphtheria	206	10	216
056	Whooping Cough	1,394	438	1,832
060	Leprosy	31	3	34
061	Tetanus	20	16	36
073	Yaws	1,221	29	1,250
080-081	Acute Poliomyelitis and its late effects	14	—	14
085	Measles	3,435	405	3,840
087	Chickenpox	1,889	399	2,288
089	Mumps	2,279	34	2,313
095	Trachoma	521	44	565
110-117	Malaria	507	240	747
127	Filariasis	1,333	69	1,402
123-130	Worm Infestations	44,828	5,018	49,846
135	Scabies	6,375	676	7,051
036-138	All other diseases classed as infective or parasitic including fevers of unknown origin	21,985	3,964	25,949
140-239	Neoplasms (Tumours)	446	56	502
240-245	Allergic Disorders (asthma, urticaria)	10,766	1,418	12,184
250-254	Diseases of Thyroid	566	120	686
260	Diabetes mellitus	178	14	192
280-286	Avitaminosis and other deficiency states	19,593	2,682	22,275
290-293	Anaemias	15,073	1,766	16,839
300-318	Mental Disorders	321	19	340
370	Conjunctivitis	9,851	1,169	11,020
371-388	Other diseases of eye	5,341	704	6,045
389	Blindness	48	9	57
390-398	Diseases of ear	10,413	1,072	11,485
341-398	All other diseases of C.N.S. and sense organs	3,583	356	3,939
400-468	Diseases of the Heart and Blood Vessels	2,485	281	2,766
470	Common Cold	51,482	7,657	59,139
473	Tonsillitis, acute	12,244	910	13,154
480-483	Influenza	3,594	868	4,462
490-493	Pneumonia	2,038	525	2,563
500-502	Bronchitis	27,762	3,004	30,766
471-527	Other respiratory diseases	36,055	2,523	38,578

International List Classification Number	*Disease or Condition*	*No. of cases treated in Government Hospitals and Dispensaries*	*No. of cases treated in Non-Government Dispensaries*	*Total*
540-545	Diseases of the stomach	18,552	1,619	20,171
560-561	Hernia	308	24	332
571-764	Diarrhoea and Enteritis	46,677	6,606	53,283
530-578	Other diseases of digestive system ...	34,485	2,499	36,984
580-587	Diseases of the Liver, Gall-bladder and Pancreas	707	154	861
600-609	Diseases of urinary system (excluding Gonorrhoea see 030-035)	4,727	495	5,222
610-637	Diseases of genital organs	2,686	226	2,912
640-659 & 661-689	Complications of pregnancy	2,343	470	2,813
690-698	Boils, abscesses, cellulitis and other local skin infections	42,492	2,856	45,348
700-716	Other diseases of skin	37,904	3,437	41,341
720-727	Arthritis and Rheumatism	16,172	1,465	17,637
730-744	All other diseases of musculoskeletal system	11,416	1,026	12,442
795	Diseases, cause unknown	15,215	975	16,190
E810-E845	Road accidents	850	311	1,161
E850-E858	Water transport accidents	138	62	200
E916	Accidents caused by fire	1,485	348	1,833
E800-E999	Other accidents	23,620	2,062	25,682
E870-E895	Poisonings	252	27	279
	Total ...	565,615	62,578	628,193

Appendix I

SARAWAK GOVERNMENT

MEDICAL AND HEALTH DEPARTMENT

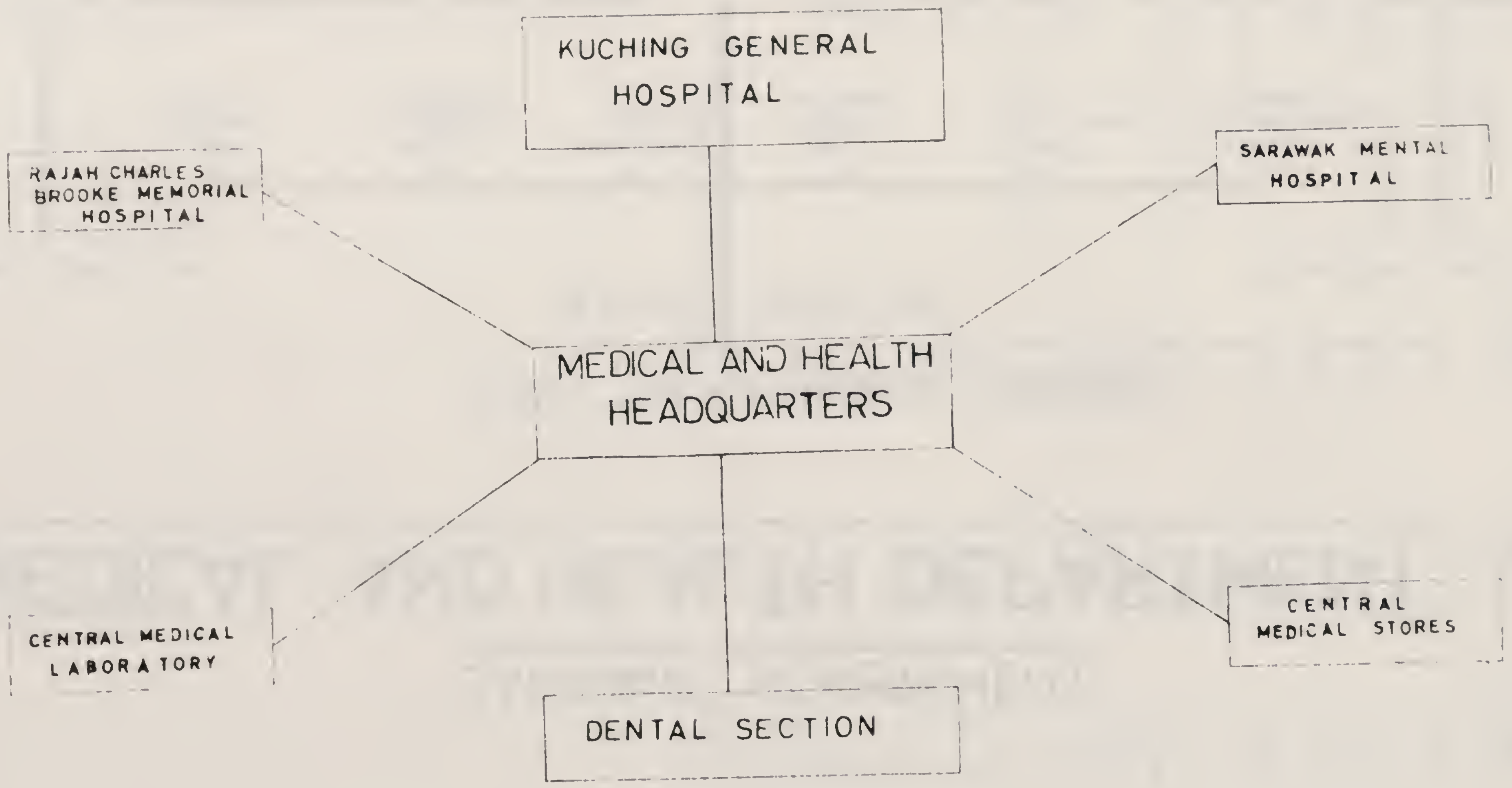


Appendix II

SARAWAK GOVERNMENT

MEDICAL AND HEALTH DEPARTMENT

SECTIONAL ORGANISATION

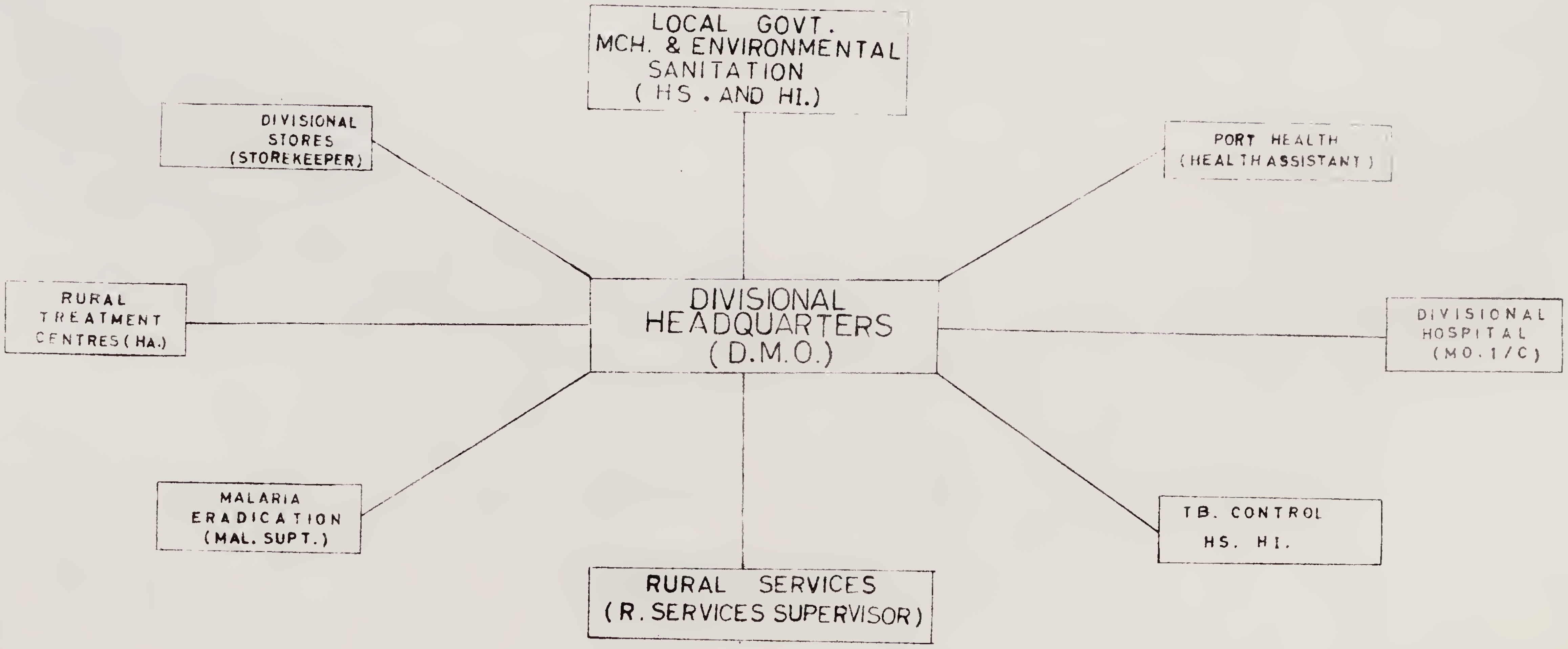

KUCHING GENERAL HOSPITAL
RAJAH CHARLES BROOKE MEMORIAL HOSPITAL
SARAWAK MENTAL HOSPITAL
MEDICAL AND HEALTH HEADQUARTERS
CENTRAL MEDICAL LABORATORY
CENTRAL MEDICAL STORES
DENTAL SECTION

Appendix III

SARAWAK GOVERNMENT

MEDICAL AND HEALTH DEPARTMENT

DIVISIONAL ORGANISATION


LOCAL GOVT. MCH. & ENVIRONMENTAL SANITATION (HS. AND HI.)
DIVISIONAL STORES (STOREKEEPER)
PORT HEALTH (HEALTH ASSISTANT)
RURAL TREATMENT CENTRES (HA.)
DIVISIONAL HEADQUARTERS (D.M.O.)
DIVISIONAL HOSPITAL (MO. I/C)
MALARIA ERADICATION (MAL. SUPT.)
TB. CONTROL HS. HI.
RURAL SERVICES (R. SERVICES SUPERVISOR)